

State of South Carolina

Proposed State Project Management Methodology

Table of Contents

| | |
|---|-----------|
| Overview | 5 |
| Purpose | 5 |
| Organization | 5 |
| How To Use This Document | 6 |
| Project Initiation Stage | 7 |
| Project Initiation Critical Success Factors (CSFs) | 7 |
| Project Initiation Activities | 8 |
| 1. Assign Project Champion/Leader | 8 |
| 2. Identify an Executive Sponsor | 8 |
| 3. Define the Business Need/Opportunity | 9 |
| 4. Identify Business Objectives and Benefits | 10 |
| 5. Define Overall Project Scope | 11 |
| 6. Define Project Objectives | 11 |
| 7. Ensure Alignment with Strategic Direction and State's Enterprise Architecture | 13 |
| 8. Identify Project Constraints and Assumptions | 14 |
| 9. Identify and Engage Key Stakeholders | 15 |
| 10. Identify Key Potential Risks | 15 |
| 11. Define Responsibilities of the Project Manager | 16 |
| 12. Determine Cost and Schedule Estimates | 17 |
| Project Initiation Stage Deliverable | 19 |
| Project Charter | 19 |
| Project Planning Stage | 20 |
| Project Planning Critical Success Factors | 20 |
| Project Planning Activities | 21 |
| 1. Assign Project Manager | 21 |
| 2. Determine the Project Team | 22 |
| 3. Refine Project Scope | 23 |
| 4. Determine Procurement and Sourcing Strategy | 25 |
| 5. Determine Project Schedule | 26 |
| Determine Project Phasing | 26 |
| Develop a Work Breakdown Structure (WBS) | 27 |
| Identify activities and activity sequences based on project scope and deliverables | 27 |
| Estimate activity duration, work effort, and resource requirements | 27 |
| Determine activity dependencies | 28 |
| Develop Project Schedule | 28 |
| 6. Define Project Organization and Governance | 28 |
| Identify an Executive Steering Committee | 29 |
| Identify required skill sets by role | 29 |
| Develop project organization | 29 |
| Assign/acquire project team members | 29 |
| 7. Identify Other Resource Requirements | 30 |
| Determine facility needs | 30 |
| Determine infrastructure, equipment and material needs | 31 |

| | |
|---|-----------|
| 8. Refine Project Cost Estimate and Budget | 31 |
| 9. Establish Project Life Cycle Phase Checkpoints..... | 32 |
| 10. Develop Stakeholder Management and Communication Approach.... | 33 |
| 11. Develop Quality Management Approach | 34 |
| 12. Identify Potential Project Risks..... | 36 |
| Risk versus Opportunity | 36 |
| 13. Determine Process for Issue Identification and Resolution..... | 37 |
| 15. Determine Process for Managing Scope Change | 37 |
| 16. Develop Organization Change Management Approach | 38 |
| 17. Develop Configuration Management Approach | 38 |
| 18. Define a Knowledge Repository for Project Deliverables and Work Products | 39 |
| 19. Develop Project Plan | 39 |
| Project Planning Stage Deliverables | 40 |
| Project Plan..... | 40 |
| Project Managing (Execution and Controlling) Stage | 42 |
| Project Managing Critical Success Factors | 43 |
| Project Managing Activities | 43 |
| 1. Manage Risk | 43 |
| 2. Communicate Information | 44 |
| 3. Manage Schedule..... | 45 |
| 4. Document the Work Results | 46 |
| 5. Manage Organizational Change..... | 47 |
| 6. Lead/Manage Change..... | 47 |
| Political Skills – Agency and Governmental | 47 |
| People Skills..... | 48 |
| System Skills..... | 48 |
| Business Skills | 49 |
| Four Basic Change Management Strategies | 49 |
| Factors in Selecting A Change Strategy | 50 |
| One More Time: How do you manage change? | 51 |
| Selected Sources | 51 |
| 7. Manage Scope | 52 |
| 8. Manage Quality | 53 |
| 9. Manage Costs | 54 |
| 10. Manage Issues | 56 |
| 11. Conduct Status Review Meetings..... | 56 |
| 12. Review Project Life Cycle Phases Checkpoints | 58 |
| 13. Execute the Procurement Plan | 59 |
| 14. Administer Contract/Vendor..... | 59 |
| 15. Update Project Planning Documents..... | 60 |
| 16. Establish Final Acceptance Process..... | 60 |
| Project Managing Stage Deliverables | 62 |
| Project Status Reports | 62 |
| Updated Planning Documents | 63 |
| Project-Specific Deliverables | 63 |
| Project Closeout Stage | 64 |
| Project Closeout Critical Success Factors | 64 |
| Project Closeout Activities..... | 64 |
| 1. Conduct Final Acceptance Meeting..... | 64 |
| 2. Conduct Final Contract Review..... | 65 |
| 3. Conduct Outcomes Assessment Meeting | 66 |
| 4. Conduct Knowledge Transfer | 67 |
| Project Closeout Stage Deliverables | 69 |
| Project Closure Document | 69 |

| | |
|--|----|
| Outcomes Assessment Report | 69 |
| Executive Sponsor | 70 |
| General Functions | 70 |
| Project Initiation Stage | 70 |
| Project Planning Stage..... | 70 |
| Project Managing Stage | 71 |
| Project Closeout Stage..... | 71 |
| Project Manager..... | 71 |
| General Functions | 71 |
| Project Initiation Stage | 72 |
| Project Planning Stage..... | 72 |
| Project Managing Stage | 72 |
| Project Closeout Stage..... | 73 |
| Steering Committee | 73 |
| General Functions | 73 |
| Project Initiation Stage | 73 |
| Project Planning Stage..... | 74 |
| Project Managing Stage | 74 |
| Project Closeout Stage..... | 74 |
| Project Team | 74 |
| General Functions | 74 |
| Project Initiation Stage | 75 |
| Project Planning Stage..... | 75 |
| Project Managing Stage | 75 |
| Project Closeout Stage..... | 75 |
| Enterprise Project Management Office | 76 |
| General Functions | 76 |
| Project Initiation Stage | 76 |
| Project Planning Stage..... | 76 |
| Project Managing Stage | 76 |
| Project Closeout Stage..... | 76 |
| Online Documents and Templates..... | 76 |
| Acknowledgements..... | 77 |

Introduction

Overview

The State of South Carolina has established a Statewide Project Management Office to create and maintain a documented Project Management Methodology for Information Technology projects. This methodology, modified from the project management methodology developed by the Minnesota Office of Technology, is designed to meet the needs of the various state agencies and organizations, provide for the required oversight, and be consistent with the [Project Management Institute's \(PMI®\) *A Guide to Project Management Body of Knowledge \(PMBOK®\)*](#). It is recognized that this Project Management Methodology must be scalable to meet the requirements of various sized projects in all agencies. Various templates and outlines have been created to support this methodology.

Purpose

The primary purpose of this document is to describe the framework that is used by the State of South Carolina in initiating, planning, managing (controlling and executing), and closing Information Technology (IT) projects. This document describes the methodology and provides links to other documents, templates, checklists, and outlines that are used in support of this methodology.

This document, by defining the methodology, is intended to provide a common point of reference for talking and writing about the practice of project management for IT projects within the State of South Carolina. This common basis is intended to increase the awareness and professionalism of those charged with the responsibilities defined in the methodology. The roles and responsibilities of the Executive Sponsor, Steering Committee, Project Manager, Stakeholders, Subject Matter Experts and other team members are integral to the success of any project. A common understanding of the role requirements and the rationale behind those requirements are key factors for improving project results and are referenced in the Critical Success Factors sections of this methodology.

This methodology has been modeled after the methodology developed by the State of Minnesota, Office of Technology.

Organization

Each of the Project Stage sections of the document is organized as follows:

- Project stage overview and description
- Project stage critical success factors
- Project stage activities

-
- Activity description
 - Activity action plan checklist
 - Project Stage Deliverables

How To Use This Document

Agencies should use this document in the management of:

- Large and/or complex IT projects requiring CIO project management oversight, and
- All Enterprise –wide IT project.

It is recommended that agencies use this document as a guide in the management of

- all IT projects, regardless of size, and
- the development and implementation of a project management methodology for internal projects of all type.

It defines a standard suite of:

- terms
- processes
- knowledge areas and,
- formats and templates to support effective project management

recommended by the Division of the State Chief Information Officer and based upon the [Project Management Institute's](#) (PMI®) *Project Management Body of Knowledge* (PMBOK®). These recommendations apply to all state agencies and are updated on an ongoing basis.

Underlined blue text refers to documents or templates which are available online. A link to these is located on the next to last page of this document.

Project Initiation Stage

Every project starts with an idea. That idea may be the result of a unique thought or design; it may respond to a regulatory mandate; it may answer a call for operational maintenance; or it may be as simple as providing scheduled updates. In essence, projects are generated for many different reasons; however, projects warrant special consideration for uniqueness, importance, cost, priority, and duration of effort. Accordingly, potential projects, so as not to underestimate their value-add and timing, need to be subjected to an assessment process that will allow the sponsor, stakeholders, project team and other interested parties to validate the potential project benefits and timing. This assessment of potential projects occurs during the Initiation Stage. During this stage, a potential project is conceptualized, justified, authorized, and funded by the appropriate governing bodies.

The purpose of the Initiation Stage and the resulting deliverable, the [Project Charter](#), is to help ensure the success of the State's Information Technology (IT) projects. The [Project Charter](#) documents the business case, stakeholders, project objectives, and other key facts. For large, complex, or critical projects, a more detailed, standalone, [Business Case](#) document may be produced. This process is designed to help guide thinking about IT projects, and to assist Project Managers and others in articulating and evaluating key aspects of a proposed project. The process of creating the [Project Charter](#) provides a basis for communication, understanding and agreement among Project Managers, Agency Directors and other project stakeholders regarding proposed IT projects. It allows for an evaluation of a proposed IT solution to a business problem or opportunity to help ensure that the solution is:

- Realistic
- A good investment
- Likely to improve operations
- Consistent with agency and State standards and objectives.

Projects will vary in terms of complexity, but all should have a [Project Charter](#). For some projects, it may take only a few hours or days to complete this document; for others, it could take months. This document is critical to guaranteeing buy-in for a project. The goal during this stage, and specifically with the [Project Charter](#), is not to generate a large document, but rather to provide information necessary to understand, and thus to determine, if the project should be initiated and carried into the Planning Stage.

Project Initiation Critical Success Factors (CSFs)

- Identification of Executive Sponsor
 - Formal acceptance by the sponsor of responsibility for the project, including achievement of the benefits and costs described in the [Project Charter](#)

-
- Approval of the [Project Charter](#) by the Executive Sponsor
 - Alignment with business/IT strategic plan/direction

Project Initiation Activities

The following is a list of key activities to develop a [Project Charter](#) and initiate a project:

1. Assign Project Champion/Leader

Description

Although a project manager may not have yet been selected, a project champion/leader should be assigned during project initiation. The project champion may or may not be the eventual project manager. This project champion is responsible for defining the project purpose, establishing the critical success factors, gathering strategic and background information, determining high-level planning data and developing estimated budgets and schedules for the life of the project. The project champion will coordinate resources and activities to complete the necessary components of the [Project Charter](#). This may include establishing a small team to assist in this preliminary analysis of a project.

| Action Plan Checklist | |
|-----------------------|--|
| | Select a project Champion or Leader |
| | Identify a team to assist with Project Initiation Stage activities |
| CSF | Project Champion and Project Initiation Stage team members are identified |

2. Identify an Executive Sponsor

Description

The sponsor is an executive responsible for the strategic direction of a project. An Executive Sponsor should have the authority to define project goals, secure resources, and resolve organizational and priority conflicts. Multiple studies indicate a direct correlation between the lack of project sponsorship and project failure. Well-meaning but costly mistakes, include substituting a steering committee for a sponsor, and assuming that a big-budget and highly visible project does not need a formal sponsor. The Executive Sponsor's primary role is to:

- Champion IT projects from initiation to completion
- Participate in the development and selling of the project business case
- Present overall vision and priorities for the project
- Assist in determining final funding and project direction
- Serve as executive liaison to key State stakeholders, e.g., legislators, agency directors and managers
- Chair the project steering committee

| Action Plan Checklist | |
|-----------------------|---|
| | Identify an Executive Sponsor |
| | Obtain acceptance of his or her ongoing roles and responsibilities toward the project |
| CSF | Executive Sponsor knows and accepts his or her roles and responsibilities toward the project |

3. Define the Business Need/Opportunity

Description

The need/opportunity statement should provide a general discussion, in business terms, of the needs or opportunities that are to be addressed. It is here that the question, “**Why are we proposing to undertake this project?**” is addressed.

Typically, a requirement or opportunity relates to the need to:

- Provide necessary services more efficiently or cost-effectively, or new services mandated by law
- Obtain needed information that is not currently available
- Reduce the costs of operations
- Generate more revenue
- Avoid unnecessary increases in an agency’s budget.

For example, “Our Agency is required to disburse benefit checks by the fifth working day of each month. With our current system, we are able to meet that deadline only 70 percent of the time.”

The discussion of the need/opportunity should be stated in business terms and should provide an understanding of:

- What created the need, or how the opportunity was recognized
- The magnitude of the need/opportunity
- Contributing factors, such as workload increases or staff reductions, and fiscal constraints
- An understanding of the extent to which the need/opportunity would be addressed if an appropriate alternative were implemented
- The consequences for an agency and its customers if the need or opportunity is not addressed.

By understanding the magnitude of the need or opportunity, the agency will be better able to estimate reasonable amounts of resources to expend in responding to it, and the extent to which the proposed response will resolve it.

| Action Plan Checklist | |
|-----------------------|--|
| | Identify the Business Need/Opportunity |

| | |
|-----|---|
| | Determine the magnitude of the Business Need/Opportunity |
| | Determine the extent to which the Business Need/Opportunity would be addressed if the project were approved |
| | Determine the consequences for not addressing the Business Need/Opportunity |
| CSF | Business Need/Opportunity is documented in the Project Charter |

Note: For large, complex, or critical projects it may be appropriate to enhance and expand the [Business Case](#) document. It is in this document that the Business Need/Opportunity would be found.

4. Identify Business Objectives and Benefits

Description

Business objectives define the results that must be achieved for a proposed solution to effectively respond to the need/opportunity. In this section, the question, **“What measurable change(s) in our program, services, operations, etc. should the project produce?”** is to be addressed. These objectives are the “success factors” against which the agency can measure how well the proposed solution addresses the business need or opportunity. Each objective should:

- Be specific and related to the problem/opportunity statement
- Be stated in business and observable/measurable terms
- Be realistically achievable
- Be time-bound, that is include a time period within which the objectives should be achieved.

In establishing objectives, decide whether the proposed solution will impact costs, agency operations, or both. Determine whether costs will be reduced/avoided, if timeliness or service quality will increase. If possible, the agency should translate operational improvements into reduced costs. For example, a business objective could be to “reduce the average amount of overtime worked by 100 hours per month, thereby saving \$X per year.”

Objectives should also identify:

- Cost savings and quality of service improvements
- Business process improvement opportunities
- Reduced workload (i.e., increase customer web use)
- Increased accuracy (i.e., customer updates information via web)
- Expanded customer use

| Action Plan Checklist | |
|-----------------------|--|
| | Determine Business Objectives and ensure that they satisfy the Business Need/Opportunity |

| | |
|------------|--|
| | Identify Business Process Improvement opportunities |
| | Determine benefits of meeting Business Objectives and ensure that the benefits relate to the Business Need/Opportunity |
| | Ensure Business Objectives are achievable, time-bound, and measurable |
| | Assign metrics to the business objectives |
| | Determine Cost Savings and Quality of Service improvements |
| CSF | Business Objectives and Benefits are documented in the Project Charter |

5. Define Overall Project Scope

Description

Provide a concise, measurable statement of what the project will accomplish, and, if appropriate, what it will not accomplish. Project scope is documented at a high level in the [Project Charter](#). Discuss the proposed solution and the business processes that will be used with the solution and describe their characteristics.

The level of detail in this section must be sufficient to allow for detailed scope and solution development in the [Scope Statement](#), developed during the Planning stage. Note: Scope creep (adding work without corresponding updates to cost, schedule and quality) may render original plans unachievable. Therefore, initial clarification of scope, is of the utmost importance so that scope changes are obvious and can therefore receive the proper focus and value consideration.

| Action Plan Checklist | |
|-----------------------|---|
| | Determine what the project will accomplish |
| | Determine what the project will not accomplish |
| | Ensure that the project scope clearly addresses all the business objectives stated in the project charter |
| | Describe the proposed solution |
| CSF | Project Scope is documented in the Project Charter |

6. Define Project Objectives

Description

Define the objectives of the project as they relate to the goals and objectives of the organization. The [Project Charter](#) should include a section that addresses the question, **“What are we intending to accomplish in the work of this project and which business objectives(s) does this work support?”** In some projects, the project objectives will be the same as, or similar to, the business objectives described in Section 4 above. However, in small or multi-phased projects, the project objectives may address only a subset of the business objectives identified above.

Project objectives are used to establish performance goals—planned levels of accomplishment stated as measurable objectives that can be compared to actual results. Performance measures should be derived for each goal. These measures can be quantified to see if the project is meeting the agency’s objectives. Project performance can then be

traced directly to the agency's goals, mission and objectives, enabling participants to correct areas that are not meeting those objectives.

The project objectives can be described in relation to the time, cost and operational objectives (scope) of the product or process or how the objectives are achieved, which may include attitude, behavior, expectations and communications .

Project objectives can also be seen as a set of objective statements, including:

- Outcome—Be specific in targeting an objective
- Metrics—Establish a measurable indicator(s) of the progress
- Ownership—Make the objective assignable to a person for completion
- Time Frame—State what can realistically be done with available resources.

Example

An example of a project objective and its relationship to an agency's business goals is as follows:

The help desk is the point of entry into this agency's core business for external customers, as well as the support environment for internal users. Faced with the pressure of providing high quality, cost-effective levels of service, a more effective service desk will mean the difference between a satisfied customer and a lost opportunity. Productivity is being hampered when employees do not receive timely support, which is also having a ripple effect on client-facing activities. Being able to provide timely, quality service is critical to the success of this organization's goals and objectives.

The objective of the Help Desk Automation Project is to select and implement a new, enhanced help desk software package by December 31, 2004 to provide data and services necessary to support the Agency's strategic goals of increasing productivity, both internally and externally, and being able to offer valid service level agreement for all customers.

Project objectives are communicated in the [Project Charter](#) to ensure that all stakeholders understand which of the organization's goals and objectives are being addressed by the project.

| Action Plan Checklist | |
|-----------------------|---|
| | Define project objectives as they relate to business objectives |
| | Define outcomes for each objective |
| | Define metrics for each objective |
| | Assign ownership for each objective |
| | Establish a time frame for each objective |

| | |
|-----|--|
| CSF | Project Objectives are documented in the Project Charter |
|-----|--|

7. Ensure Alignment with Strategic Direction and Enterprise Architecture

Description

Occasionally, an organization will take on a project that does not have a clearly defined relationship to its business. To keep this from happening, the agency's business strategy needs to be visible and understood so that the results of a project effort can be considered as a part of the agency's strategic goals and business strategy. **Using the Agency's business strategy and strategic objectives as a baseline for consideration for project initiation will save time and effort later.**

Likewise, an organization may take on a project that has a clearly defined relationship to its business, yet the project plan includes using or producing components that may in conflict with State-adopted technical architecture standards or the State's Strategic IT Plan. In the long term, this could be costly to the agency.

Review the alignment of the proposed project with supporting documents such as:

- Statewide IT Strategic plan
- Agency Strategic plan
- Agency IT Strategic plan
- Statewide Enterprise Architecture
- Agency Architecture
- Statewide Applications Portfolio
- Agency Applications Portfolio
- Current business and technical environment
- State mandates.

Generally, if the project does not further one or more of the agency's strategic goals/objectives and/or is in conflict with the State's adopted technical architecture standards or State's IT direction, management should question undertaking the project.

| Action Plan Checklist | |
|-----------------------|---|
| | Review Statewide IT Strategic Plan |
| | Review Agency Strategic Plan |
| | Review Agency IT Strategic plan |
| | Review Statewide Enterprise Architecture |
| | Review Agency Architecture |
| | Review Statewide Applications Portfolio |
| | Review Agency Applications Portfolio |
| | Review current business and technical environment |
| | Review project to ensure alignment with mandates |

8. Identify Project Constraints and Assumptions

Description

All projects have constraints, and these need to be defined from the outset. Projects have resource limits in terms of people, money, time and equipment. While these may be adjusted up or down, they are considered fixed resources for purposes of establishing the project baseline. These constraints form the basis for managing the project.

Similarly, certain criteria relevant to a project are assumed to be essential. For instance, it is assumed that an agency will make the necessary budget appropriations to fund internal projects. Project assumptions need to be defined before any project activities take place so that time is not indiscreetly utilized on conceptualizing and initiating a project that has no basis for funding.

Describe the major assumptions and constraints on which this project is based.

Example

Assumptions within the following categories should be considered and documented:

- Scope
- Schedule
- Financing
- Resources
- Expectations
- Sponsorship
- Customers
- Technologies
- Vendors
- Partners and Agency Relationship
- Other Assumptions

Constraints in the following categories should be considered and documented:

- Timeframes and Deadlines
- Funding
- Resources
- Skill Levels
- Dependencies
- Legal
- Policy
- Technology
- Other Constraints

| Action Plan Checklist | |
|-----------------------|--|
| | Identify resource limits (people, money, time and equipment) |
| | Describe major project constraints |
| | Describe major project assumptions |
| CSF | Project Constraints and Assumptions are documented in the Project Charter |

9. Identify and Engage Key Stakeholders

Description

Stakeholders are individuals and organizations that have a vested interest in the success of the project. The identification and input of stakeholders help to define, clarify, drive, change and contribute to the scope and, ultimately, the success of the project.

To ensure project success, the project management team needs to identify stakeholders early in the project, determine their needs and expectations, and manage and influence those expectations over the course of the project.

| Action Plan Checklist | |
|-----------------------|--|
| | Identify internal Stakeholders |
| | Identify external Stakeholders |
| | Determine Stakeholder needs and expectations |
| | Manage Stakeholder needs and expectations. Revise project objectives or assist Stakeholders in setting realistic expectations. |
| CSF | Key Stakeholders are identified and documented in the Project Charter |
| CSF | Key Stakeholder needs and expectations are identified and managed |

10. Identify Key Potential Risks

Description

Projects are full of uncertainty. As such, **it is advisable to perform and document an initial risk assessment to identify, quantify and establish mitigation strategies for high-level risk events that could adversely affect the outcome of the project.**

A risk is any factor that may potentially interfere with successful completion of the project. A risk is not a problem—a problem has already occurred; a risk is the recognition that a problem or opportunity might occur. By recognizing potential problems and risks, the project manager can attempt to avoid or minimize a problem through proper actions.

| Action Plan Checklist | |
|-----------------------|--|
| | Identify risks of a critical or significant nature |
| | Assess impact and probability of risks occurring |
| | Establish mitigation strategies for identified risks |
| CSF | Key potential risks and mitigation strategies are documented in the Project Charter |

11. Define Responsibilities of the Project Manager

Description

A project manager's responsibilities typically include some or all of the following:

- Provide day-to-day decision-making on critical project issues as they pertain to project scope, schedule, budget, methodology and resources
- Providing direction, leadership and support to project team members in a professional manner at project, functional and task levels
- Ensure project documentation is complete and communicated, e.g., project charter, scope statement, project schedule, project budget, requirements, testing and others
- Facilitate the prioritization of project requirements
- Manage the planning and control of project activities and resources
- Develop and manage project contracts with vendors
- Report project components status and issues to the executive project sponsor and the project steering committee and any other applicable stakeholders.
- Using, developing and improving upon the project management methodology within the agency
- Providing teams with advice and input on tasks throughout the project, including documentation, creation of plans, schedules and reports
- Resolving conflicts within the project between resources, schedules, etc.
- Influencing stakeholders and team members in order to get buy-in on decisions that will lead to the success of agency projects
- Delegating responsibility to team members.

Multiple Roles

Depending on the size and complexity of the project, the project manager may take on other responsibilities in addition to managing the work. For instance, the project manager may assist with gathering business requirements, may help design a database management system or write some of the project documentation. Project management is a particular role that a person fills, even if the person who is the project manager is working in other roles as well. **Clearly identified project management roles and responsibilities, and allowing the time needed, are essential to project success.**

Responsibilities in a Matrix Organization

There are three major project organizational structures: functional, matrixed, and projectized. The most prevalent organizational structure today is some form of matrix structure. The matrix organization allows the most efficient use of people resources for an agency. However, one of the challenges of the matrix organization is that the team members are assigned to the project for work (full time or part time), but those resources

report to another supervisor. This can mean that it is harder to secure the resources to do the things needed to be done, and there is sometimes a sense that team members would rather do what their functional managers request, rather than what the project manager needs. In this type of a structure, there are a number of proactive things senior management can do in defining the role of the project manager:

- Although the team does not functionally report to the project manager, their work on the project should still be input into their overall performance review, so management can hold people accountable by making sure they understand that the project manager will be providing performance feedback into their review. This should also be reiterated, and agreed to, by the functional managers.
- Senior management must recognize that if the availability and performance of the team is in doubt, it is a project risk.

Matrix management involves a complex and delicate balancing act between project managers and functional managers. Senior management should be available to provide support to the project manager, recognizing that it is a challenge to achieve results from people that may not work for the project manager full-time, and who may also have additional non-project, functional responsibilities as well.

The role of the Project Manager should be defined as early in the life of the project as is possible.

| Action Plan Checklist | |
|-----------------------|---|
| | Clearly define all the responsibilities of the project manager |
| | At a high level, define the lines of authority for the project manager and the human resources (project team) required for the project. (This is necessary to determine whether the project is being coordinated, managed in a matrixed manner, or is projectized.) |
| | Define, if any, non-project management tasks for which the project manager will be responsible |
| CSF | Ideally, the Project Manager or Project Manager's role should be noted in the Project Charter |

12. Determine Cost and Schedule Estimates

Description

Cost

Estimate the one-time development and acquisition costs, as well as the ongoing maintenance and operations costs expected to be associated with the project. This is the life cycle cost or the total cost of implementation and ownership of a system over its useful life. It includes the cost of development, acquisition, operation, maintenance, support, and where applicable, disposal. Although application development projects tend mainly to incur labor expense (which should include internal personnel also), the costs of any additional servers, middleware, tools and temporary staff should also be included.

Finally, explain how the proposed project is to be funded by fiscal year. If the project is to be funded from multiple sources, indicate the percentage from each source. Also, indicate whether funds have been budgeted for this purpose. If a request for budget augmentation will be submitted, identify the fiscal year.

Schedule

Identify the high-level tasks for the project. For example, tasks could include the typical steps of any project life cycle, and the following: procurement, conversion, training for end users, training for technical staff, post-implementation support, etc.

Provide a schedule that includes the duration of critical tasks, major decision points and milestones. Milestones should be products or major events that may be readily identified as completed or not completed on a specified due date.

When planning for phased project implementation, specific phases should have an independent and substantial benefit, even if no additional components are acquired. Describe the phases planned for this project and what each phase will deliver, or explain why phasing is not appropriate.

Many late or over-budget projects deemed “failures” are actually only estimating failures. We recommend re-estimating when starting each major project phase; only with confidence in the relative accuracy of an estimate is time and cost tracking useful for anything but historical purposes. When an estimate is expected to be 35 percent off, variances from it seem a minor concern. Estimating from flawed requirements increases the risk of scope creep or delivery of an ill-fitting application needing major rework. Even with accurate requirements, though, estimating duration without a reasonable knowledge of the application development team’s productivity is a known risk.

| Action Plan Checklist | |
|-----------------------|---|
| | COST |
| | Estimate the one-time development and acquisition costs |
| | Estimate the ongoing maintenance and operations costs expected to be associated with the project |
| | Explain how the proposed initiative is to be funded by fiscal year. If the project is to be funded from multiple sources, indicate the percentage from each source. |
| | SCHEDULE |
| | Identify the high-level tasks for the project |
| | Develop a schedule that includes the duration of critical tasks, major management decision points and milestones |
| | Describe the phases planned for this project and what each phase will deliver, or explain why phasing is not appropriate |
| CSF | Project Cost and Schedule are documented at a high level in the Project Charter |

Project Initiation Stage Deliverable

Project Charter

The [Project Charter](#) is a high-level business evaluation of the planned IT project. Since projects of different levels of complexity and risk require different levels of evaluation, the [Business Case](#) and [Project Charter](#) should be prepared at a level of detail appropriate for the scope and complexity of the proposed technical solution.

- For small, less complex, less critical projects, a high-level [Business Case](#) within the Project Charter is sufficient.
- More costly, complex, and/or mission-critical projects will require a separate, expanded [Business Case](#).

The [Project Charter](#) is a point-in-time document that provides the Executive Sponsor with adequate information to determine if the proposed project has enough merit to continue to the next stage. If the proposed project lacks sufficient merit to continue, the Executive Sponsor does not approve the [Project Charter](#). If the Executive Sponsor approves the [Project Charter](#), it authorizes the team, including additional resources, if necessary, to create the [Scope Statement](#).

Note: The [Scope Statement](#) is generally the next funding checkpoint. If other intermediate steps are required, this should be stated and tracked to ensure the project remains in control.

Project Planning Stage

The Project Planning Stage follows the Project Initiation Stage and is considered to be the most important stage in project management. **Project planning is not a single activity or task.** It is a process that takes time and attention. Project planning defines the project activities and describes how and in what sequence the activities will be accomplished. Time spent up-front identifying the proper needs and structure for organizing and managing projects saves countless hours of confusion and rework in the Managing (Execution and Controlling) Stage of the project.

The purposes of the Project Planning Stage are to:

- More clearly define project scope
- Establish more precise cost and scheduling of the project (including a list of deliverables and delivery dates)
- Establish the work organization
- Obtain management approval
- Provide a framework for management review and control.

Without planning, a project's success will be difficult, if not impossible. Team members will have limited understanding of expectations; activities may not be properly defined; and resource requirements may not be completely understood. Even if the project is finished, the conditions for success may not have been defined. Project planning will involve identifying and documenting scope, tasks, schedules, risk, quality and staffing needs. The planning process should continue until as many of the areas as possible of the project have been addressed.

The planning process involves the following steps:

- Estimate the size, stated in dollars and/or time, of the project
- Estimate the technical scope of the project
- Estimate the resources required to complete the project
- Produce a schedule
- Identify and assess risks
- Negotiate commitments.

Completion of these steps is necessary to develop the [Project Plan](#). Typically, several iterations of the planning process are performed before a plan is finally completed.

Project Planning Critical Success Factors

- Identification of Project Manager with a track record of success on similar projects.

-
- Discrepancies between previous experience and the demands of the current project should be explained.
 - Ensure that key resources (including project team resources) are available as required by the [Project Plan](#).
 - Ensure that interim project deliverables are identified and scheduled throughout the project plan.

Project Planning Activities

The following is a list of key activities required to plan a project:

1. Assign Project Manager

Description

Selection of a project manager is not easy, nor is it something that should be taken lightly. A project manager's skills and actions are a direct reflection of the agency's commitment and competence in project management. As noted above, a project manager's daily responsibilities typically include some or all of the following:

- Provide day-to-day decision-making on critical project issues as they pertain to project scope, schedule, budget, methodology and resources
- Providing direction, leadership and support to project team members in a professional manner at project, functional and task levels
- Ensure project documentation is complete and communicated, e.g., project charter, scope statement, project schedule, project budget, requirements, testing and others
- Identify funding sources and facilitate the prioritization of project requirements
- Manage the planning and control of project activities and resources
- Develop and manage project contracts with vendors
- Report project components status and issues to the executive project sponsor and the project steering committee
- Use, develop, improve upon the project management methodology within the agency
- Provide teams with advice and input on tasks throughout the project, including documentation, creation of plans, schedules and reports
- Resolve conflicts within the project between resources, schedules, etc.
- Influence stakeholders and team members in order to get buy-in on decisions that will lead to the success of agency projects
- Delegate responsibility to team members.

Taking these responsibilities into account, it is easy to see that a project manager should not necessarily be selected by an agency based strictly on tenure or function, but rather based on a combination of strengths. A project manager should be selected based on the following skills and experience:

- Project management methods and tools skills
- Interpersonal and team leadership skills
- Basic business and management skills
- Experience within the project's technical field
- Respect and recognition among peers within the agency.

Project managers who are selected to lead a project but who were not involved in the Initiation Stage (for whatever reason) should be reminded that it is critical to review the Project Initiation Stage documentation. These documents are the agreed-upon foundation for which the project was created and the catalyst for the creation of the [Project Plan](#).

| Action Plan Checklist | |
|-----------------------|--|
| | Assign project manager |
| | Project manager reviews project business case and other Initiation Stage documents |
| CSF | Project Manager is assigned |

2. Determine the Project Team

Description

A successful project requires the following ingredients:

- A clear understanding of the end product or service requirements
- A well laid-out plan that assures the stakeholders, clients, and/or customers that the project is handled in a cost-efficient manner
- Strong, open lines of communication
- The right staff for the project.

Staffing the project is a critical part of all projects regardless of the size. A project team can consist of any number of people, from two to two hundred. A first-step in determining the project team is outlining the disciplines required. The second step is determining the quantity of effort or size of project and the project team requirements. Most projects require project teams with skills and abilities in a number of disciplines.

Generally, it is necessary to refine the project scope and complete development of a work breakdown structure before the project team can be finalized.

Once resource needs have been clearly identified, it is necessary to determine the availability of the necessary resources. The resources may be internal to the

organization and organizational unit with the project. They may be internal to the organization, but external to the unit with the project. Also, the required resources may be external to the organization or agency, but within government, or they may be external to government (private contractors or vendors). Often, project resource requirements are a combination of all of these.

A responsibility assignment matrix (RAM) is frequently developed to clearly identify and relate tasks and task responsibilities, especially when resources are both internal and external to the organization.

| Action Plan Checklist | |
|-----------------------|---|
| | Outline the disciplines required |
| | Determine the quantity of effort and skills requirements |
| | Determine resource availability and scheduling requirements |
| | Negotiate for the staffing resources |
| | Project manager establishes a project planning team |
| CSF | Project Team is defined |

3. Refine Project Scope

Description

The development of a Project [Scope Statement](#) sets the overall guidelines as to the components and bounds of the project and provides the basis for future project decisions. The content of this statement, at a minimum, should include the following:

- Project Results/Completion Criteria: What will be created in terms of deliverables (and their characteristics) and/or what constitutes a successful phase completion?

Acceptance Criteria

Performance requirements and essential conditions that have to be achieved before project deliverables are accepted

Deliverables

Another name for products, services, processes, or plans that are created as a result of doing a project. A project typically has interim as well as final deliverables

- The Approach to Be Used: What type of process or technology will be used?

Process

The combination of people, equipment, materials, methods, technology and environment that produce an output, i.e. a given product or service

Technical Approach

A textual account, usually detailed, of the mechanics of all or of the currently known technology vested in the project

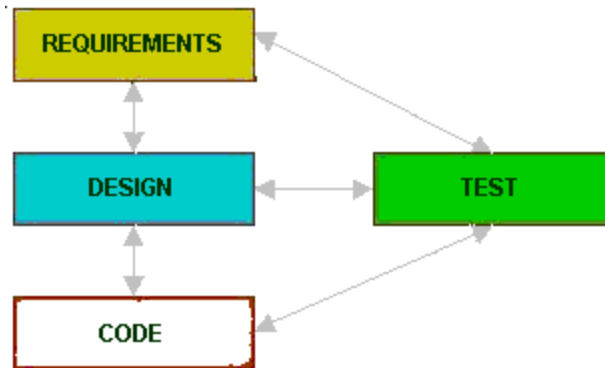
Business Approach

A group of logically related activities that use the resources of the organization to provide defined results in support of the organization's objectives and the project.

- Content of the Project: What is and is not included in the work to be done?
 - **Work Statements**
The detailed descriptions of work content, i.e. for each work package that together make up the whole project.
- Approval by Executive Sponsor and Key Stakeholders.

A Traceability Matrix should also be designed at this time. The Matrix is created by associating the project requirements/objectives with the products/services that satisfy them. Traceability ensures that all lower level requirements derive from higher level requirements and all higher level requirements are allocated to lower level requirements. Traceability is also used in managing change and provides the basis for test planning.

Figure 1 – Traceability Matrix



| Action Plan Checklist | |
|-----------------------|--|
| | Define all deliverables |
| | Define all milestones |
| | Define the acceptance criteria and process for deliverables |
| | Define the acceptance criteria and process for final products |
| | Describe the Technical Approach for the final products |
| | Describe the Business Approach for the products |
| | Develop a Requirements Traceability Matrix. This matrix will be used later to validate that all requirements were delivered. |
| CSF | Project Scope Statement is a component of the Project Plan |
| CSF | Scope Statement is Approved by the Executive Sponsor and Key Stakeholders |

4. Determine Procurement and Sourcing Strategy

Description

In large projects, it is rare for an organization to be able to create or supply all the resources, materials, etc. necessary to complete a project internally. In circumstances where it is necessary to go outside the agency, the solution is to purchase the product or service from an external source or enter into a contract with an outside vendor to perform a service or develop the product for the agency.

Develop a Procurement and Sourcing Strategy that identifies the needs of the project that must be met by purchasing products or services from outside the Agency. The Procurement and Sourcing Strategy deals with the following:

- What to procure
 - How does this product serve the needs of the project and the Agency as a whole?
 - Does the product or something similar already exist somewhere else within the Agency?
 - Is there a service provider available in the marketplace for this product?
 - Does the Agency have the means (staff, money, contract, etc.) to produce or to acquire the product?
- When to procure
 - ***Make or Buy Analysis:*** This is a simple method to determine the cost-effectiveness of creating a product in-house as compared to the cost of buying the product or having it produced outside the Agency. All costs, both direct and indirect, should be considered when performing a make or buy analysis. The costs should then be compared with each other with consideration given to any compelling argument on either side by the project team. Consideration should also be given to the potential of leasing vs. purchasing items. This could save money for the Agency if cost is applied correctly against the useful life of the product or service supplied. Many of the decisions will be based on the length of need for the item or service, as well as the overall cost.
 - ***Expert Judgment:*** This process uses the expertise of people from within and outside the Agency who have knowledge or training in the area in question to determine what steps should be taken. These people review the needs and the costs and deliver their opinion for consideration in the procurement decision.
- How to procure (contract types)
 - ***Fixed-Price/Lump-Sum Contract:*** This is a contract that involves paying a fixed, agreed-upon price for a well-defined product or service. Special

consideration must be given to these contracts to ensure that the product is well defined to reduce risk to both the Agency and the contractor.

- **Cost Reimbursement Contract:** This contract type refers to a reimbursement to the contractor for actual cost of producing the product or service. Costs within the contract are classified as direct (e.g., salaries to staff of the contractor) and indirect (e.g., salaries of corporate executives for the contractor). Indirect costs are normally based on a percentage of direct costs.
- **Unit Price Contract:** The contractor is paid a preset amount for each unit (e.g., \$10 per widget produced) or unit of service (e.g., \$50 per hour of service) produced. The contract equals the total value of all the units produced.
- **Performance-Based Contract:**
- **Best-Value Contract:**
- How much to procure
 - Will there be need beyond the immediate project for this product?
 - How much of the budget has been allocated for this product?
 - Is the need for the product clearly defined enough for the Agency to know exactly how much of the product will be needed?
- Develop framework for contract/vendor administration

| Action Plan Checklist | |
|-----------------------|---|
| | Determine what to procure |
| | Determine when to procure |
| | Determine how to procure |
| | Determine how much to procure |
| CSF | The Procurement and Sourcing Strategy is a component of the Project Plan |

5. Determine Project Schedule

Description

Determine Project Phasing

When planning for phased project implementation, specific phases should have an independent and substantial benefit, even if no additional components are acquired. Describe the phases planned for this project and what each phase will deliver, or explain why phasing is not appropriate. The funding of future phases of a project should be based upon the successful completion, submission, and acceptance of deliverables from the preceding phases.

Develop a Work Breakdown Structure (WBS)

The WBS provides the capability to break the scope into manageable activities, assign responsibility to deliver the project scope, and establish methods to structure the project scope into a form that improves visibility for management. The WBS also requires that the scope of the overall project be documented. The level of detail may vary depending on the size of the project.

A WBS is a hierarchical representation of the products and services to be delivered on a project. Elements of scope are decomposed to a level that provides a clear understanding of what is to be delivered for purposes of planning, controlling and managing project scope. In its entirety, a WBS represents the total scope of a project. A WBS is neither a schedule nor an organizational representation of the project; instead, it is a definition of what is to be delivered. Once the scope is clearly understood, the project manager must determine who will deliver it and how it will be delivered. This is the one planning tool that must be used to ensure project success on any size project.

Identify activities and activity sequences based on project scope and deliverables

The WBS reflects activities associated with overall project management, requirements, design, implementation, transition management, testing, training, installation and maintenance. The project manager is responsible for defining all top-level tasks associated with a project and then, along with assistance from the project team, further decomposing them as planning continues.

WBS tasks are developed by determining what tasks need to be done to accomplish the project objective. The choice of WBS is subjective and reflects the preferences and judgment of the project manager. As levels of the WBS become lower, the scope, complexity and cost of each subtask become smaller and more accurate. The lowest-level tasks, or work packages, are independent, manageable units that are planned, budgeted, scheduled and controlled individually.

One of the most important parts of the project planning process is the definition of activities that will be undertaken as part of the project. Activity sequencing involves dividing the project into smaller, more-manageable components (activities) and then specifying the order of completion. Much of this has already been done within the process of creating the WBS.

Estimate activity duration, work effort, and resource requirements

There is no simple formula to define how detailed a work breakdown needs to be. There are, however, some helpful guidelines for completion:

- Break down the work until accurate estimates of cost and resources needed to perform the task are provided.
- Ensure that clearly defined starting and ending events are identified for the task. These may be the production of a deliverable or the occurrence of an event.

- Verify that the lowest-level tasks can be performed within a reasonable period of time. Each project must define “reasonable.” If the time period to complete a task is too long, an accurate project status in the Managing (Execution and Controlling) Stage may not be possible. An industry-standard rule of thumb is to make work packages that can be completed within time frames of two weeks (80 effort hours).
- Verify that people assigned to the project are all assigned a WBS task.

Determine activity dependencies

The WBS denotes a hierarchy of task relationships. Subtask completion eventually rolls up into task completion, which ultimately results in project completion. There can, however, also be relationships between tasks that are not within the outlined hierarchy (perhaps from other projects). These relationships need to be noted. If the tasks are not organized efficiently, it becomes difficult to schedule and allocate resources to the tasks.

Develop Project Schedule

Following the definition of project activities, the activities are associated with time to create a project schedule. The project schedule provides a graphical representation of predicted tasks, milestones, dependencies, resource requirements, task duration and deadlines. The project’s master schedule links all tasks on a common time scale. The project schedule should be detailed enough to show each work breakdown structure task to be performed, name of the person responsible for completing the task, start and end date of each task, and expected duration of the task.

| Action Plan Checklist | |
|-----------------------|---|
| | Develop a Work Breakdown Structure (WBS) |
| | Identify activities and activity sequences based on project scope and deliverables |
| | Estimate activity duration, work effort and resource requirements |
| | Determine activity dependencies |
| | Determine project phasing |
| | Develop Project Schedule |
| CSF | Detailed Project Schedule is completed |
| CSF | Project Schedule is a detailed component of the Project Plan |

6. Define Project Organization and Governance

Description

Every Agency has a limited number of resources to perform tasks. One of a project manager’s primary role is to find a way to successfully execute a project within these resource constraints. Resource planning is comprised of establishing a team possessing

the skills required to perform the work (labor resources), as well as scheduling the tools, equipment and processes (non-labor resources) that enable completion of the project.

Identify an Executive Steering Committee

- The Executive Steering Committee will act as the principal decision-making authority regarding the strategic direction of the entire project. The Executive Steering Committee will also provide executive project oversight and conduct regular decision-making on critical project issues as they pertain to project scope, schedule, budget, methodology, resources, etc.
- In Enterprise and Multi-agency Projects, the Executive Steering Committee will include Executive representation from State agencies, the Division of the CIO - Project Management Support Group (PMSG) and appropriate stakeholders.

Identify required skill sets by role

- It is helpful in the planning process to develop a list of skills required, first for execution of the project and then for execution of each task. This skills list may then be used to determine the type of personnel required for the task.

Develop project organization

- Project organization is used to coordinate the activity of the team and to define the roles and responsibilities of team members. Project organization is needed for every project, and the project manager must always be identified.
- The optimal size of the project team is driven by three principal factors; the total number of tasks to be performed, the effort needed to perform the tasks, and time frame for the project's completion.
- The larger the project, the more critical the organizational structure becomes. In a small project, a single team member may be responsible for several functions, whereas in a large project, each function might require a full-time person or staff. A very large project, for instance, often requires a deputy project manager. A small project might have the senior technical staff member serving as a project manager. Definition of the project organization is a critical part of the planning process.
- Confusion and lack of productivity can be the result of poor project organization. This is where many projects run into trouble. A good organization facilitates communication and clearly defines roles and responsibilities.

Assign/acquire project team members

- A project needs to establish its pool of available resources. The resource pool typically specifies the type, level (e.g., skill and experience), and time period that the resource is available.

- The project manager should pragmatically assess the skills of the available people on the project. The project manager's job is to determine the risks associated with the available skills and to build a plan that realistically accounts for those skills. Unfortunately, skill level is not a yes/no factor. People have varying degrees of skill, and the project manager needs to determine the level of schedule adjustment that should be made based on the staff skill level.
- Where staff with the necessary skills is largely unavailable for assignment on the project, the project manager has an option to hire the necessary talent or contract services to perform the work.
- Backfill roles for assigned team members (depending on resource requirements)
- Update project schedule (e.g., load resources)

| Action Plan Checklist | |
|-----------------------|--|
| | Identify an Executive Steering Committee |
| | Identify required skill sets by role |
| | Develop project organization |
| | Assign/acquire project team members |
| | Backfill roles for assigned team members (depending on resource requirements) |
| | Update project schedule (e.g., load resources) |
| CSF | Executive Steering Committee is established |
| CSF | Project Organization and Reporting Structure are documented |
| CSF | Project Roles and Responsibilities are documented |
| CSF | Resource Plan is documented as a detailed component of the Project Plan |
| CSF | Project team members are assigned and committed to the project |
| CSF | Project Schedule is loaded with actual resources |

7. Identify Other Resource Requirements

Description

All project teams require the tools to successfully perform the tasks assigned. In scheduling resources, the project manager must ensure that both people and the equipment necessary to support those people are available simultaneously. The project manager must:

Determine facility needs

- The need for adequate workspace is often overlooked when planning a project. If a 15-member project team is going to start work, there must be a facility to house the team. Ideally, the team should be placed in contiguous space (co-located) to facilitate interaction and communication. Team spirit and synergy are enhanced and the chances for project success

are increased when everyone is close together. While this may not always be feasible, it is a goal worth striving toward.

Determine infrastructure, equipment and material needs

- In addition to workspace, equipment for the team should be included in the Resource Plan. Ensuring the availability of equipment at critical points in the project is key in planning a successful project. Efficiency and morale are negatively affected by unavailability of equipment needed to perform a task. When considering equipment, it is also important to remember to give each team member the right tools (for example computer software) they need to do the job. Also, it is essential that information exchange and communications tools are provided for project team members and project stakeholders.

| Action Plan Checklist | |
|-----------------------|--|
| | Determine facility needs |
| | Determine infrastructure, equipment and material needs |
| CSF | Resource Plan section of the Project Plan is updated |
| CSF | All resource requirements are identified |

8. Refine Project Cost Estimate and Budget

Description

The budget for the project is developed in parallel with the project schedule. Budgeting, performed at the initial stages of project planning, is the process of determining the costs associated with the defined activities. The steps associated with budgeting are highly dependent on both the estimated lengths of tasks and the resources assigned to the project.

Initial budgetary estimates are often based on availability of funds or may be dictated by legislation. These parameters may or may not coincide with the actual funds needed to perform the project. For this reason, budget estimates are refined in the Planning Stage until they are base-lined at the beginning of the Project Managing Stage.

Budgeting serves as a control mechanism where actual costs can be compared with and measured against the budget. The budget is often a firmly set parameter in the execution of the project. When a schedule begins to slip, cost is proportionally affected. When project costs begin to escalate, the project manager should revisit the [Project Plan](#) to determine whether scope, budget or schedule needs adjusting.

To develop the budget, the applicable cost factors associated with project tasks are identified. The development of costs for each task should be simple and direct and consist of labor, material and other direct costs. Cost of performing a task is directly related to the personnel assigned to the task, the duration of the task, and the cost of any non-labor items required by the task.

Budget estimates should be developed by the people responsible for managing the work efforts. They provide the expertise required to make the estimate and provide buy-in and accountability during the actual performance of the task. These team members identify people or labor categories required to perform the work and multiply the cost of the labor by the number of hours required to complete the task. Determining how long the task performance takes is the single most difficult part of deriving a cost estimate. The labor costs should factor in vacation time, sick leave, breaks, meetings and other day-to-day activities. Not including these factors jeopardizes both scheduling and cost estimates.

Non-labor charges include such items as material costs, reproduction, travel, cost of capital (if leasing equipment), computer center charges and equipment costs.

| Action Plan Checklist | |
|-----------------------|---|
| | Identify the applicable cost factors associated with project tasks. The development of costs for each task should be simple and direct and consist of labor, material and other direct costs. |
| | Identify people or labor categories required to perform the work and multiply the cost of the labor by the number of hours required to complete the task |
| | Include non-labor charges such as material costs, reproduction, travel, cost of capital (if leasing equipment), computer center charges, and equipment costs |
| CSF | Budget includes costs for all one-time and recurring costs |
| CSF | Budget includes labor costs for all resources (e.g., contractors and State employees) |
| CSF | The Project Schedule has been updated with cost factors |
| CSF | The Project Budget is baselined |
| CSF | Project Budget and Project Schedule are detailed components of the Project Plan |

9. Establish Project Life Cycle Phase Checkpoints

Description

To ensure that the project progresses satisfactorily, management checkpoints or milestones should be clearly defined with planned dates to measure progress. Checkpoints are high-level milestones. Senior management uses them to approve the completion of a phase or milestone and as go/no-go decision points to proceed with the project. The checkpoints ensure that the products and services delivered meet the project objectives in the time frame established by senior management.

| Action Plan Checklist | |
|-----------------------|---|
| | Establish management checkpoints and/or milestones with clearly defined planned dates to measure progress |
| | Establish entrance criteria for each phase |
| | Establish exit criteria and associated deliverables for each phase |
| | Determine funding requirements for each phase |
| CSF | Project Life Cycle Phase Checkpoints are established (including entrance and exit criteria) |
| CSF | Phased Funding Requirements are determined |

| | |
|-----|--|
| CSF | Life-Cycle Phase Checkpoint and Funding Requirements are documented in the <u>Project Plan</u> |
|-----|--|

10. Develop Stakeholder Management and Project Communication Approach

Description

Stakeholders can be defined as Key or Non- Key for the purpose of planning for how they will be managed:

- Key Stakeholders are those individuals or groups whose interest in the project must be recognized if the project is to be successful - in particular those who will be positively or negatively affected during the project or upon successful completion of the project.
- Non-Key are Stakeholders who do not need to be recognized for the project to be successful, but who will be identified as a result of identifying all Stakeholders.

For the purposes of formalized Stakeholder Management procedures, to make it easier to manage stakeholders, classifying the Key Stakeholders into groups is a useful tool, and allows management strategies for like groups to be developed and implemented. The management strategies adopted may be formal, informal, detailed, or broad depending upon the needs and size and complexity of the project. Stakeholder Management activities can consume project resources, therefore these activities should concentrate on what will contribute to the project's success or where lack of communication will lead to failure.

Tactics for achieving and sustaining stakeholder commitment include:

- Active involvement of all who can affect and be affected by the project in the definition and planning stages.

"Intended strategies have no value in and of themselves; they take on value only as committed people infuse them with energy ... that is why every problem of implementation is also one of formulation - not only for the actual strategies conceived but also for the process by which conceptualization occurs" (Henry Mintzberg 1994).

- Project players must be able to legitimize their actions in the eyes of those who are affected or who can affect the project's outcomes. They need to establish credibility and engender trust. Apart from having demonstrable skills, expertise and experience, ways of legitimizing actions include:
 - establishing good personal relationships. Expertise alone does not inspire trust and credibility;

- illustrating that actions are being driven by the needs of the stakeholders, and that their needs and requirements are being considered seriously;
 - using the recommendations of consultants or established formal methodologies to support the project; and
 - involving senior executives as project champions to lend the project authority.
- Project communication and persuasion. Others should be aware of the project, and interested in its proposed outcomes early in the project if their cooperation and involvement is required later. Project communication is a particularly important issue for whole-of-government projects. The communication strategy should appreciate differences in separate stakeholder groups and cater for their requirements.

Communications planning involves defining the information needs of project stakeholders and team members, as well as identifying which people need what information, when it will be needed, and how they will get it. Communication is the cornerstone of how work gets done among different parties within a project. Communications planning is a process that overlays all other parts of project planning as well as the other project management stages. It addresses the way in which we transfer/share information about what needs to be done, how it will be done, when it needs to be done, who will do it, status reporting, issues management, problem resolution, etc.

| Action Plan Checklist | |
|-----------------------|--|
| | Determine who needs what information |
| | Determine when information is needed |
| | Determine how to communicate information (memo, e-mail, weekly/monthly meetings, etc.) |
| CSF | Project Communication Approach is a component of the Project Plan |

11. Develop Quality Management Approach

Description

If the agency has established quality standards, the Project Manager can refer to the documents containing these quality standards that are already in place. However, in most cases, such standards do not exist. The Project Manager and the project team must then identify and document the desired standards for each project deliverable. If quality standards are not identified and documented, the Project Manager will have no way to determine if the deliverables are being produced to an acceptable level. The standards identified must meet both stakeholder/agency requirements and be achievable within allocated project resources and schedule.

The project scope statement, product description, organizational standards and regulations (e.g., Americans with Disabilities Act) are starting points for determining the appropriate quality standards to be used. Additional information discovered during project planning (e.g., development of RFP requirements) will aid in refining these standards. It may be beneficial to conduct a cost-benefit analysis to determine if the benefits of implementing the desired quality standard will out-weigh the cost of implementing them. It may also be beneficial to review past projects that implemented quality standards similar to those that are being considered for the current project.

Once defined, the quality standard must be managed. This may require the broadening of the scope of the quality concept to a system approach. This involves three quality processes as follows:

- “Quality Planning” involves identifying which quality standards are relevant to the project and determining how to satisfy them. The activities within the quality planning process basically translate existing quality policy and standards into a Quality Plan through a variety of tools and techniques.
- “Quality Assurance” is the evaluation of overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards. It utilizes quality audits to ensure that quality standards and the business and project requirements are met.
- Quality control involves monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance.

Successful quality processes always strive to see quality through the eyes of the end user (customer). Customers are the ultimate judge of the quality of the product they receive. They will typically judge a project by whether or not their requirements are met. To ensure delivery of a quality product, the project team should ensure that requirements are addressed at each phase of the project.

It is important to include a process that validates that the currently defined requirements will be satisfactory to the customer. It is counterproductive to develop a system that meets a documented requirement if you and the customer know that the requirement has changed. The change management process helps to control the number of such changes, but quality processes must be in place in order to make changes when they are necessary.

- Define quality standards
- Define quality management processes

| Action Plan Checklist | |
|-----------------------|---|
| | Define Quality Standards |
| | Determine how to meet Quality Standards |
| | Determine the process to evaluate overall project performance on a regular basis to provide confidence that the project will satisfy the relevant Quality Standards |
| | Determine quality audits to ensure that Quality Standards and customer requirements are met |

| | |
|------------|--|
| | Determine how to monitor specific project results to determine if they comply with relevant Quality Standards and identifying ways to eliminate causes of unsatisfactory performance |
| CSF | Quality Management Approach is a component of the Project Plan |

12. Identify Potential Project Risks

Description

A risk is any factor or discrete occurrence that may affect the project for good or bad. In a project, risk assessment describes the impact of an event, situation, or occurrence to the project which could be in the form of diminished quality of the end product, increased costs, delayed completion, failure, or opportunity. Some studies quote a 90% decrease in project problems through the use of risk management.

A risk is not a problem—a problem is a situation that has already occurred; a risk is the recognition that a problem or an opportunity might occur. By recognizing potential problems, the project manager can attempt to avoid or minimize a problem through proper action. When looking at risks, the following should be assessed:

- The probability that it will occur (what)
- The range of possible outcomes (impact or amount at stake)
- Expected timing(when) in the life cycle
- Anticipated frequency of risk events from that source (how often)

Risk versus Opportunity

Risk and opportunity go hand in hand. Many projects strive to advance current capabilities and achieve something that hasn't been done before. The opportunity for advancement cannot be achieved without taking risk.

"Risk in itself is not bad; risk is essential to progress, and failure is often a key part of learning. But we must learn to balance the possible negative consequences of risk against the potential benefits of its associated opportunity."¹

It is important to plan for the risk management process to ensure that the level, type and visibility of risk management are commensurate with both the risk and importance of the project to the organization.

This activity should define the approach, tools, and data sources used to perform risk management on this project. Different types of assessments may be appropriate, depending upon the project stage, amount of information available, and flexibility remaining in risk management.

The project team should identify potential project risks in addition to key risks identified during the initiation stage. For each identified risk, the team should:

- Assess impact and probability of risk occurring

¹[Van Scoy, Roger L. *Software Development Risk: Opportunity, Not Problem*. Software Engineering Institute, CMU/SEI-92-TR-30, ADA 258743, September 1992

- Determine a risk response approach, including any contingency plans. Risk Response planning might include: insurance; contracting, identification of residual risks and secondary risks, fallback planning, and reserves.

| Action Plan Checklist | |
|-----------------------|---|
| | Define the approach, tools and data sources used to perform risk management on this project |
| | Identify potential project risks |
| | Assess impact and probability of risks occurring |
| | Determine a risk response approach, including any contingency plans |
| CSF | Risk Management Approach is a component of the Project Plan (including ongoing risk assessments) |
| CSF | Project Risks and Mitigation Strategies are components of the Project Plan |

13. Determine Process for Issue Identification and Resolution

Description

The purpose of the issue management process is to provide a mechanism for organizing, maintaining and tracking the resolution of issues that cannot be resolved at the individual level. The approach consists of issue control mechanisms and a well-defined process that enables the project team to identify, address and prioritize problems and issues.

| Action Plan Checklist | |
|-----------------------|---|
| | Determine Issue Management approach |
| | Define Issue Documentation procedures (e.g., Issue document and Issue Log) |
| | Define Issue Accountability and Resolution procedures |
| | Define Issue Escalation procedures |
| CSF | Issue Management Approach is a component of the Project Plan |

14. Determine Process for Managing Scope Change

Description

Project scope management can be just as important to scope planning as the Scope Statement itself. This effort describes how the project scope will be managed and how scope changes will be integrated into the project. The scope change management process will:

- Define process for identifying and documenting potential changes to scope
- Define process for review and approval of scope change
- Describe which planning documents need to be revised due to scope change.

| Action Plan Checklist | |
|-----------------------|--|
| | Define process for identifying and documenting (e.g., Scope Change Request and Scope Change Request Log) potential changes to scope |
| | Define process for review and approval of scope change |

| | |
|------------|--|
| | Describe which planning documents need to be revised due to scope change |
| CSF | Scope Change Management Approach is a component of the Project Plan |

15. Develop Organization Change Management Approach

Description

Some of the details related to organizational change management will not become apparent until the completion of detailed design of the solution. The expectation during the Planning Stage is to develop a high-level understanding of the impact of the project on the organization. The project team will:

- Identify potential organizational changes and impact
- Refine business process improvement opportunities
- Identify training needs (e.g., magnitude)
- Determine knowledge transfer resources and processes.

| Action Plan Checklist | |
|-----------------------|---|
| | Identify potential organizational changes and impact |
| | Refine Business Process Improvement opportunities |
| | Identify training needs (e.g., magnitude) |
| | Determine Knowledge Transfer resources and processes |
| CSF | Organization Change Management Approach is a component of the Project Plan |

16. Develop Configuration Management Approach

Description

Implementation of configuration management processes should be carried out on all projects, especially large or complex projects. In short, configuration management is a necessity. Configuration management processes should be implemented at the Agency level to ensure a consistent general approach, with consideration given to the special functions or needs of the project itself. The complexity or size of the configuration system is less important than its functionality and intent.

Effective configuration management requires an effective and well-defined Configuration Management effort. The following are Configuration Management functions:

- Defining who will be responsible for and have authority over configuration management
- Setting standards, procedures, and guidelines for the full project team to follow
- Defining tools, resources, and facilities to be used for configuration management

The Configuration Management document could range from a few pages to hundreds of pages for very large software development activities with extensive procedures and

control items. The size depends, of course, on the complexity of the project and the need for detailed control.

| Action Plan Checklist | |
|-----------------------|--|
| | Assign Configuration Management authority and responsibility for the project |
| | Ensure that Configuration Management is implemented throughout the project by setting standards, procedures, and guidelines that are produced and distributed to the full project team |
| | Ensure that project management has a repository for storing configuration items and associated Configuration Management records |
| | Ensure that quality assurance reviews the baselines and Configuration Management activities on a regular basis |
| CSF | Configuration Management Approach is a component of the Project Plan |

17. Define a Knowledge Repository for Project Deliverables and Work Products

Description

Throughout the lifecycle of the project there will be planning notes, specifications, work product deliverables, and other key knowledge components necessary to the project.

Ideally, project teams should be able to easily find project and system documentation, preferably online. Project leads and managers often need to view stored project-management documents. They often use project schedules and budget sheets of completed projects to see how to estimate similar projects in the future. A "lessons learned" document database can also provide project teams with the ability to build on the experience of other IT staff and avoid repeating the same mistakes.

The project team should define the repository for project knowledge and the procedures for ensuring that such documents are maintained.

| Action Plan Checklist: | |
|------------------------|---|
| | Create a central repository for all project deliverables and work products |
| | Maintain an inventory for all project deliverables and work products |
| CSF | A Repository is established for maintaining key knowledge assets and project work products |

18. Develop Project Plan

Description

The [Project Plan](#) is completed during the Planning Stage of a project. For large projects, this stage may be run as a mini-project with a team of people dedicated to performing the effort. For very small projects, the plan may be developed by a group of people as a part-time job. Because various skill sets are required to complete a successful [Project Plan](#), it

is a difficult task for one person to develop the entire plan. During this project stage, details of the plan are determined and an approach is defined. The full [Project Plan](#) is then developed.

Even during the Project Planning Stage, the development of the [Project Plan](#) is an iterative process. Each element of the plan is regularly revisited for changes and refinements, based on further analysis and decisions made in developing other plan elements. This refinement also develops buy-in from the project team and stakeholders.

It is critical to get sign-off on the Project Plan by stakeholders prior to actually starting the project. Approval of the plan commits the resources needed to perform the work.

| Action Plan Checklist | |
|-----------------------|--|
| | Consolidate outcomes from Planning Stage activities |
| | Incorporate Business Case components |
| CSF | Project Plan completed and approved |

Project Planning Stage Deliverables

Project Plan

The [Project Plan](#) is a formal, approved document used to manage and control project execution. The project plan is a compilation of text and standalone deliverables created during the Initiation and Planning Stages. The level of detail should be appropriate for the scope, complexity and risk of the project. The following is a list of key components usually included in a project plan:

- Project Charter
 - Project Overview
- Scope Statement
 - Business Objectives
 - Project Objectives
 - Assumptions and Constraints
 - Project Deliverables and Milestones
- Project Schedule
 - Work Breakdown Structure (WBS)
- Project Organization and Governance
 - External Interfaces
 - Internal Structure
 - Roles and Responsibilities
 - Resource Management Plan

-
- Project Cost Estimate and Budget
 - Systems Development Life Cycle Phase Checkpoints
 - Stakeholder Management and Project Communications Approach
 - Quality Management Approach
 - Risk Management Approach
 - Issue Identification and Management Approach
 - Project Procurement and Sourcing Strategy
 - Scope Management Approach
 - Organizational Change Management Approach
 - Configuration Management Approach

While each of these areas should be discussed within the [Project Plan](#), it is still imperative to develop documents and processes that describe each of these in detail.

Once the project manager completes the [Project Plan](#), it should be reviewed (i.e., using the [Project Planning Review Checklist](#)) and approved by agency management and stakeholders. The level and extent to which the plan will be reviewed is based on the size of the project as stated in dollars or period of time. Ultimately, the review process allows for executive management buy-in and approval of the plan. Once the [Project Plan](#) is approved and signed, the project manager is given the authority to complete the current project efforts and enter into the Execution Stage.

Project Managing (Execution and Controlling) Stage

A project manager's responsibilities do not stop once the planning of the project is done. Because a project manager is responsible to internal and external stakeholders, the project team, vendors, executive management and others, the visibility of the position is intensified because many of these people will now expect to see and discuss the resulting deliverables that were detailed in the Planning Stage. As a project manager, keeping oneself from getting "down in the weeds," especially on large projects, will be important. The project manager should focus his/her attention on enabling the project plans and processes and managing the expectations of customers and stakeholders.

Once a project moves into the Managing Stage, the project team and the necessary resources to carry out the project should be in place and ready to perform project activities. The [Project Plan](#) should have been completed and baselines established by this time as well. The project team, and specifically the project manager's focus, now shifts from planning the project efforts to coordinating, participating in, observing and analyzing the work being done.

The project plan managing process ensures that planned project activities are carried out in an effective and efficient way while ensuring that measurements against project plans, specifications, and the original project feasibility concept continue to be collected, analyzed and acted upon throughout the project life cycle. Without a defined project managing process, each project team would execute projects using its own best practices, experience, and methods, while certain control, tracking and corrective action activities would be missed.

It is important to note that project execution and control relies heavily on the plans developed in the Planning Stage. There is already enough work to do within the Managing Stage of the project; therefore, having to reinvent ways of dealing with risk, change requests, training and resource issues, and other such obstacles to progress is impractical and undesirable at this point.

Particular attention will need to be paid to keeping interested parties up to date with project status, dealing with procurement and contract administration issues, helping manage quality control, and monitoring project risk.

It is also critical during the Managing Stage that the project manager support and monitor the implementation of other important aspects of the project such as the Communications Plan, Risk Management Plan and Procurement Plan via periodic interaction with the project team and stakeholders.

The Managing Stage also includes project control activities. Project control involves the regular review of metrics and status reports in order to identify variances from the planned project baseline. The variances are determined by comparing the actual

performance metrics from the Managing Stage against the baseline metrics developed during the Planning Stage. These variances are fed into agency control processes to evaluate their meaning. If significant variances are observed (i.e., variances that jeopardize the completion of the project objectives), adjustments to the plan are made by repeating and adjusting the appropriate project planning strategies and documents. A significant variance from the plan does not explicitly require a change, but should be monitored to see if preventive action is warranted. For example, a missed activity finish date may require adjustments to the current staffing plan, reliance on overtime, or trade-off between budget and schedule objectives. Project control also includes taking preventative action in anticipation of possible problems.

Project Managing Critical Success Factors

- Major functional deliverables provided in six-month to 12-month intervals (e.g., immediate business value achieved)
- Stakeholder communication
- Proactive project governance process
- Stakeholder acceptance of key deliverables and milestones
- Regular checkpoints for continuous validation of the business case

Project Managing Activities

The following is a list of key activities, ranked in order of importance, required to execute and control a project:

1. Manage Risk

Risk identification, monitoring and resolution are key tools for successfully completing a project. Part of controlling a project during the Managing Stage is to have an established risk management process. This process is a primary part of project planning and is kept current until project closeout.

Risk management is of much greater concern to the information technology project manager than to the non-information-technology project manager. Information technology project managers may be responsible for projects that are working with undeveloped, or unproven, technologies. In the race to keep an agency ahead of the technology curve, project managers will have to engage their teams in projects that may have limited budgets, tight schedules and high customer expectations.

The other risk issue is the development and implementation of information technology equipment and software that might become obsolete very quickly. Technology is moving at an alarming rate with its increases in speed and capabilities. Accordingly, risk is increased when implementing high-dollar or homegrown technology systems. To

alleviate this issue, the project manager must make sure that the efforts of the project team are aligned with the technology and business strategy of the agency. Researching future needs, capabilities, and integration requirements of the products will be helpful.

| Action Plan Checklist: | |
|------------------------|---|
| | Create a central repository for risk information and associated documentation of risk items and resolution strategies |
| | Assign a risk manager, who should be either the project manager or a member of the status tracking/reviewing team (this assignment should have been done at project baseline, but definitely by the early days of the Managing Stage) |
| | Include a risk summary in the regular status meetings |
| | Providing a consistent and ongoing evaluation of risk items and development of risk strategies |
| | Identify new risks (e.g. Risk Assessment) |
| | Evaluate new and existing risks (e.g., Potential Project Risks) |
| | Define/refine risk response strategies |
| | Select and obtain approval (from steering committee) for selected risk response strategies |
| | Implement approved risk response strategy |
| | Revise any related or impacted planning documents |
| | Conduct regular follow-up risk assessments based on magnitude of the project |
| CSF | Project Risks are documented (e.g., according to the Risk Management Plan) and addressed |

2. Communicate Information

The project Communications Plan is an important factor in the Managing Stage. A large part of a project manager's responsibility during this stage of the project is keeping the stakeholders informed of project status. Joint project reviews are a good way to bring visibility to all areas of the project. They provide an opportunity to discuss important issues and make management decisions on the project with input from several sources. Joint project reviews can involve the project manager, project team members, project stakeholders and agency management, depending on the issues being discussed. The frequency and topics covered at these meetings should be outlined in the Communications Plan.

| Action Plan Checklist: | |
|------------------------|--|
| | Ensure that Stakeholder and Team Communication Plan is being executed as planned |
| | Review and approve external project messages |
| | Conduct joint project meetings as appropriate. |
| | Revise Stakeholder and Team Communication Plan based on feedback received from stakeholders and project team members |
| CSF | Stakeholders and project team members are informed and aware of project activities and status |

3. Manage Schedule

The procedures defining the process to update schedules to depict current work efforts are key to ensuring that accurate schedules are maintained. Without these procedures, invalid data may cause inaccurate schedule performance reporting. Data collection and validation involves the following steps:

- Collecting and validating schedule status; for example, data that reflects start, finish and estimates to complete work
- Validating data attributes and associations used to report schedule information; for example, task relationship to the work breakdown structure, project lifecycle phase, functional organization or integrated master schedule
- Validating work effort to ensure that the schedules accurately depict the way work is being accomplished and reported.

The validation technique will improve management control by improving the quality of the information reported. The implementation of specific techniques should provide this benefit without burdening those responsible for project delivery.

Schedule control is one of the most difficult but important activities within project control. The project schedule can be affected by any number of issues from resources to funding, vendors, weather, and anything in between. The ability of a project manager to manage the schedule of a project and deliver it on time is a high-visibility concern for project success from a customer point of view.

Attributes of Schedule Control include:

- Influencing the factors that create schedule changes to ensure that changes are beneficial
- Determining that the schedule has changed
- Managing the actual changes when and as they occur.

Schedule issues come from a variety of sources. But there should be a single, focused method for dealing with schedule changes. If a potential schedule problem is discovered, the problem must be investigated and the cause uncovered as soon as possible. Once the problem is discovered, a plan should be created for correcting the problem in the shortest allowable time with the least impact. It is also advisable to bring forward alternatives and associated costs.

Schedule control is something that typically is managed at the project level by the project manager. However, it is very important to make the customer and all affected project participants and other stakeholders aware that a schedule change has occurred. Furthermore, the customer needs to be made aware of what is being done to fix the issue and the impact it will have on the project's performance and deliverables.

Schedule control is an important aspect of project management that is often overlooked during information technology projects. Information technology projects may have several different dependencies or factors that can influence product delivery dates, and ultimately, customer satisfaction. These factors and dependencies may include, but may not be limited to, the following:

- Availability of staff or resources
- Delivery of equipment or software
- Unexpected events
- Deliverables from other projects or personnel.

Because customers sometimes see meeting the schedule as the most important part of a project, it is a good idea for project managers to hold regular project schedule reviews. Large or complex IT projects may have several schedules being managed at a deliverable or functional level. Therefore, having the “owners” of these schedules meeting at regular intervals is of great benefit to the project manager. The project manager is responsible for integrating these project schedules and making them understandable for all of the project’s stakeholders.

| Action Plan Checklist: | |
|------------------------|--|
| | Collect and validate schedule status; for example, data that reflects start, finish and estimates to complete work |
| | Validate data attributes and associations used to report schedule information; for example, task relationship to the Work Breakdown Structure (WBS), project lifecycle phase, functional organization or integrated master schedule |
| | Validating work effort to ensure that the schedules accurately depict the way work is being accomplished and reported |
| | Conduct regular project schedule review meetings. Large or complex projects may require more frequent meetings. |
| | Identify potential schedule problems. Consider common scheduling factors such as availability of staff or resources (e.g., ability to meet Resource Plan), delivery of equipment or software, unexpected events, deliverables from other projects or personnel. |
| | Investigate potential schedule problems and uncover the cause as soon as possible |
| | Develop a plan for correcting the problem in the shortest allowable time with the least impact. Provide alternatives and associated costs. |
| | Make the customer aware that a schedule change has occurred. The customer needs to be made aware of what is being done to fix the issue and the impact it will have on the project's performance and deliverable. |
| CSF | Schedule tasks are closely tracked for timely completion |
| CSF | Schedule problems are identified and addressed |
| CSF | Schedule adjustments are documented in the Project Schedule section of the Project Plan |

4. Document the Work Results

Results are the outcomes of the activities performed to accomplish the project. Information on work results provides input on which deliverables have been completed

and which have not; to what extent quality standards are being met; to what extent contractual obligations are being met; and what costs have been incurred or committed. These valuable data need to be collected and fed into an Agency performance reporting process.

| Action Plan Checklist: | |
|------------------------|--|
| | Maintain an inventory for all project deliverables and work products |
| | Update inventory with deliverable, status and quality comments |
| CSF | Project deliverables are produced and work products are tracked |

5. Manage Organizational Change

All agencies that develop and execute projects have formal and informal policies that may affect [Project Plan](#) execution. Project execution may also lead to the realization of the need for new policies or alteration of existing policies. Any consideration for new Agency policies and procedures should be documented during the Managing Stage and reviewed for implementation.

| Action Plan Checklist: | |
|------------------------|---|
| | Ensure that Organizational Change Plan is being executed as planned |
| | Participate and endorse Organizational Change activities |
| | Revise Organizational Change Plan based on feedback received from stakeholders and project team members |
| CSF | The organization is ready to accept the new system |

6. Lead/Manage Change

Most authorities agree that change is not really managed, but led. Leading the kinds of changes encountered by and instituted within agencies and departments requires an unusually broad and finely honed set of skills, chief among which are the following.

Political Skills – Agency and Governmental

Agencies are first and foremost social systems that function within a political environment. Although it may not seem so, changing people's ideas is a political act. This personal contact is, in fact, the essence of politics. Change begins with individuals, and individuals communicating with individuals is the way attitudes and ideas are most often changed. Knowledge of the organizations, their key actor and players, and both the formal and informal lines of communication are essential political skills.

Analytical Skills

Change agents and those who lead change need good analytical skills.. Insight is nice, even useful, and sometimes shines with brilliance, but insight and perception are difficult to sell and almost impossible to defend. A clearly presented, rational, well-argued analysis can be ignored and even suppressed, but not successfully contested and, in most cases, will carry the day. If it does not, then the political issues may not have been adequately addressed.

Two particular sets of skills are very important here: (1) workflow operations or systems analysis, and (2) financial analysis. Change agents must learn to take apart and reassemble operations and systems in novel ways, and then determine the financial and political impacts of what they have done. Conversely, they must be able to start with some financial measures or indicators or goals, and make their way quickly to those operations and systems that, if reconfigured a certain way, would have the desired financial impact. Those who master these two techniques have learned a trade that will be in demand for the foreseeable future. (This trade, by the way, has a name. It is called “Solution Engineering.”)

People Skills

People are the *sine qua non* of organization. Moreover, they come characterized by all manner of sizes, shapes, colors, intelligence and ability levels, gender, sexual preferences, national origins, first and second languages, religious beliefs, attitudes toward life and work, personalities, and priorities — and these are just a few of the dimensions along which people vary. Project Managers have to deal with them all.

The skills most needed in this area are those that typically fall under the heading of communication or interpersonal skills. To be effective, project managers must be able to listen and listen actively, to restate, to reflect, to clarify without interrogating, to draw out the speaker, to lead or channel a discussion, to plant ideas, and to develop them. All these and more are needed. Not everyone will have to learn Russian, French, or Spanish, but most project managers will have to learn to speak Workflow, Marketing, Finance, Personnel, Legal, Procurement and a host of other organizational dialects. More importantly, project managers have to learn to see things through the eyes of these other inhabitants of the organizational world. A situation viewed from a line of business expansion frame of reference is an entirely different situation when seen through the eyes of a systems person. Part of the job of a change agent (a project manager is a change agent) is to reconcile and resolve the conflict between and among disparate (and sometimes desperate) points of view. Charm and charisma are great if you have them., however courtesy, trust, and respect are even better. A well-paid compliment can buy gratitude. A sincere “Thank You” can earn respect.

System Skills

There’s much more to system skills than learning about computers, although most people employed in today’s world of work do need to learn about computer-based information

systems. A system is an arrangement of resources and routines intended to produce specified results. To organize is to arrange. A system reflects organization and, by the same token, an organization is a system.

A word processing operator and the word processing equipment operated form a system. So do computers and the larger, information processing systems in which computers are so often embedded. These are generally known as “hard” systems. There are “soft” systems as well: compensation systems, appraisal systems, promotion systems, and reward and incentive systems.

There are two sets of systems skills to be mastered. Many people associate the first set with computers and it is exemplified by “systems analysis.” This set of skills, by the way, actually predates the digital computer and is known elsewhere (particularly in the United States Air Force and the aerospace industry) as “systems engineering.” For the most part, the kind of system with which this skill set concerns itself is a “closed” system which, for now, we can say is simply a mechanistic or contrived system with no purpose of its own and incapable of altering its own structure. In other words, it cannot learn and it cannot change of its own volition. The second set of system skills associated with a body of knowledge generally referred to as General Systems Theory (GST) and it deals with people, organizations, industries, economies, and even nations as socio-technical systems — as “open,” purposive systems, carrying out transactions with other systems and bent on survival, continuance, prosperity, dominance, plus a host of other goals and objectives.

Business Skills

The effective project manager must understand how the agency works. This entails an understanding of money — where it comes from, where it goes, how to get it, and how to keep it. It also calls into play knowledge of business markets and marketing, products/services and product/services development, customers, revenue, selling, buying, hiring, firing, EEO, etc.

Four Basic Change Management Strategies

Note: The fourth and last strategy in the table below is not one of those presented by Bennis, Benne and Chin. It is instead the product of Fred Nickols’ own experiences during some 30 years of making and adapting to changes in, to, and on behalf of organizations.

| Strategy | Description |
|---------------------------|--|
| <i>Empirical-Rational</i> | People are rational and will follow their self-interest — once it is revealed to them. Change is based on the communication of information and the pro-offering of incentives. |

| Strategy | Description |
|-------------------------------|--|
| <i>Normative-Re-educative</i> | People are social beings and will adhere to cultural norms and values. Change is based on redefining and reinterpreting existing norms and values, and developing commitments to new ones. |
| <i>Power-Coercive</i> | People are basically compliant and will generally do what they are told or can be made to do. Change is based on the exercise of authority and the imposition of sanctions. |
| <i>Environmental-Adaptive</i> | People oppose loss and disruption but they adapt readily to new circumstances. Change is based on building a new organization and gradually transferring people from the old one to the new one. |

Factors in Selecting A Change Strategy

Generally speaking, there is no single change strategy. You can adopt a general or what is called a "grand strategy" but, for any given initiative, you are best served by some mix of strategies.

Which of the preceding strategies to use in your mix of strategies is a decision affected by a number of factors. Some of the more important ones follow.

- *Degree of Resistance*. Strong resistance argues for a coupling of power-coercive and environmental-adaptive strategies. Weak resistance or concurrence argues for a combination of Empirical-Rational and normative-re-educative strategies.
- *Target Population*. Large populations argue for a mix of all four strategies, something for everyone so to speak.
- *The Stakes*. High stakes argue for a mix of all four strategies. When the stakes are high, nothing can be left to chance.
- *The Time Frame*. Short time frames argue for a power-coercive strategy. Longer time frames argue for a mix of empirical-rational, normative-re-educative, and environmental-adaptive strategies.
- *Expertise*. Having available adequate expertise at making change argues for some mix of the strategies outlined above. Not having it available argues for reliance on the power-coercive strategy.
- *Dependency*. This is a classic double-edged sword. If the organization is dependent on its people, management's ability to command or demand is limited. Conversely, if people are dependent upon the organization, their ability to oppose or resist is limited. (Mutual dependency almost always signals a requirement for some level of negotiation.)

One More Time: How do you manage change?

The honest answer is that you manage it pretty much the same way you would manage anything else of a turbulent, messy, chaotic nature, that is, you don't really manage it, you grapple with it, and you lead it. It's more a matter of leadership ability than management skill.

1. The first thing to do is acknowledge the change and do so as early as possible.
2. Develop a clear sense of mission or purpose.
3. Build a change management team. "Lone wolves" have their uses, but managing change isn't one of them. On the other hand, the right kind of lone wolf makes an excellent temporary team leader.
4. Maintain a flat organizational team structure and rely on minimal and informal reporting requirements.
5. Pick people with relevant skills and high energy levels. You'll need both.
6. Toss out the rulebook. Change, by definition, calls for a configured response, not adherence to prefigured routines.
7. Shift to an action-feedback model. Plan and act in short intervals.
8. Set flexible priorities. You must have the ability to drop what you're doing and tend to something more important.
9. Treat everything as a temporary measure. Don't "lock in" until the last minute, and then insist on the right to change your mind.
10. Ask for volunteers. You'll be surprised at who shows up. You'll be pleasantly surprised by what they can do.
11. Find a good "straw boss" or team leader and stay out of his or her way.
12. Give the team members whatever they ask for — except authority. They'll generally ask only for what they really need in the way of resources. If they start asking for authority, that's a signal they're headed toward some kind of power-based confrontation and that spells trouble. Nip it in the bud!
13. Concentrate dispersed knowledge. Start and maintain an issues logbook.

Remember, the task of change management is to bring order to a situation in transition, not pretend that the situation is already well organized and disciplined.

Selected Sources

1. *The Planning of Change* (2nd Edition). Warren G. Bennis, Kenneth D. Benne, and Robert Chin (Eds.). Holt, Rinehart and Winston, New York: 1969.
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3. *Organizations in Action*. James D. Thompson. McGraw-Hill, New York: 1967.

7. Manage Scope

Scope control is a straightforward concept. The intent of implementing a scope control process is to identify and manage all elements (e.g., people and requirements) inside and outside of the project that increase or decrease the project scope beyond the required or defined need of the original, agreed-upon project [Scope Statement](#).

Attributes of scope control include:

- Influencing the factors that create scope changes to ensure that the changes are beneficial
- Determining that a scope change has occurred
- Managing the actual changes when and if they occur.

Scope changes will come from the perceived need for a change in a project deliverable that may affect its functionality and in most cases the amount of work needed to perform the project. A scope change is a very crucial occurrence.

A scope change most likely will require additional project funds, resources and time. Therefore, a committee that consists of stakeholders from all areas of the project should be willing to convene and discuss the potential change and its anticipated impact on the project and the Agency. This group of stakeholders should be a predefined cross section of people that will have the ability to commit their interests at a strategic management level. Once a decision is made to increase or reduce scope, the change must be authorized by all members of the committee. Any changes that are agreed upon must be documented and signed as a matter of formal scope control.

In addition, the impact of the scope change will be felt throughout the Planning Stage processes and documents. Documents such as the WBS and [Project Schedule](#) will have to be re-evaluated and updated to include the scope change impacts. Scope changes need to be communicated clearly and effectively to the project team by the project manager. Team members will want, and need, to understand how the scope change affects their area of responsibility.

Scope control is extremely important within IT projects. It is not uncommon when team members are doing their development testing or implementation work for them to try to get creative or give the customer something other than, or in addition to, the original stated requirements. Doing any work that is outside or beyond the stated work, as called out in the original requirements, is considered “scope creep” or “expansion of scope”. Expansion of scope is much more subtle within IT projects because adding additional features (e.g., adding an extra icon or function to an application) does not appear to be as significant as adding something to a normal project (e.g., adding an extra mile of road to a highway construction project).

In both cases, the additional scope of work has a tremendous impact on other control mechanisms within the project. The scope creep (unnoticed additions or changes to the

project from the agreed-upon requirements or specifications that increase the scope of the project) will most likely not be budgeted or scheduled, which means that any small scope change could have a large cost and schedule effect.

| Action Plan Checklist: | |
|------------------------|---|
| | Identify potential scope change (e.g., Change Request and Change Request Log) |
| | Evaluate impact of potential scope change |
| | Determine if additional project funds, resources and time will be required |
| | Ensure that the scope change is beneficial |
| | Convene a committee that consists of stakeholders from all areas of the project to discuss the potential change and its anticipated impact on the project and the Agency. This group of stakeholders should be a predefined cross section of people that will have the ability to commit their interests at a strategic management level. |
| | Once a decision is made to increase or reduce scope, the change must be authorized by all members of the committee. Any changes that are agreed upon must be documented and signed as a matter of formal scope control. |
| | Update planning documents with scope change impacts. Documents such as the WBS and Project Schedule will have to be re-evaluated and updated to include the scope change impacts. |
| | Scope changes need to be communicated clearly and effectively to the project team by the project manager |
| | Educate project team on the impacts of "Scope Creep" |
| CSF | Scope Changes are identified and addressed |
| CSF | Planning documents are updated with impact of improved Scope Changes |
| CSF | "Scope Creep" is minimized |

8. Manage Quality

Quality assurance incorporates a process of evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards. Accordingly, while it is important that each team member be responsible for the quality execution of tasks, a quality team is typically included in the project team and plays an integral role in the execution of quality throughout the project. This team ensures that the quality plan is executed as planned. As an organization's quality processes mature, the need for the external quality unit decreases. This quality team reports functionally to the project manager, but must also have a reporting chain outside the project to facilitate problem escalation. Problem escalation is the process of moving a problem to a higher management level if sufficient attention is not given by the project manager. The independent reporting chain provides a check and balance on the project.

Quality control involves monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory results. Quality control should be performed throughout the project. Project results include both product results, such as deliverables, and management results, such as cost and schedule performance. Quality control is often performed by a quality control unit, or a similarly titled organization unit, although this is not a requirement.

The project management team should be aware of the following concepts:

- Prevention (keeping errors out of the process) and Inspection (keeping errors out of the hands of the customers)
- Attribute sampling (the result conforms or it does not) and Variables sampling (the result is rated on a continuous scale that measures degrees of conformity)
- Special cases (unusual events) and Random causes (normal process variation).

Unfortunately, whenever any of the other control mechanisms (e.g., schedule or cost) get off their baseline, it is normally the quality control of an IT project that suffers. As noted previously, IT projects require a lot of attention to schedule and cost. Likewise, instituting quality control within a project is a very important variable. Setting up quality control audits and management processes that are carried out continually during the development and testing phases of the project's lifecycle is absolutely critical for delivering acceptable IT projects.

Quality is a valuable commodity in all projects, but even more so with IT projects. Today's customers have high expectations for the availability and reliability of the systems they use. Expectations for dynamic, high-quality systems have become commonplace. Therefore, it is essential for projects to provide quality products to their end users by using a demanding quality program.

| Action Plan Checklist: | |
|------------------------|---|
| | Establish a quality team that plays an integral role in the execution of quality throughout the project. This team ensures that the quality plan (e.g., Quality Management Approach) is executed as planned. |
| | Establish a problem escalation process to move a problem to a higher management level if sufficient attention is not given by the project manager (e.g., Executive Sponsor or Steering Committee). This independent reporting chain provides a check and balance on the project. |
| | Monitor specific project results to determine if they comply with relevant quality standards and to identify ways to eliminate causes of unsatisfactory results. Project results include both product results, such as deliverables, and management results, such as cost and schedule performance. |
| | Establish a Quality Management awareness and training program |
| CSF | Project team members accept responsibility for quality |
| CSF | Quality products are developed |

9. Manage Costs

Projects may fail to control costs, or go over budget, for many reasons. Often it is not a single problem but a series of small problems that, combined, permit cost control to be sacrificed and prevent the project from being completed successfully. Cost control contains the following attributes:

- Influencing the factors that create changes to the Project Budget Estimate to ensure that the changes are beneficial

- Determining that the Project Budget Estimate has changed
- Managing the actual changes when and as they occur.

Cost control includes the following:

- Monitoring cost performance to detect variances from the [Project Plan](#)
- Ensuring that all appropriate changes are recorded accurately in the Project Budget Estimate
- Preventing incorrect, inappropriate or unauthorized changes from being included in the Project Budget Estimate
- Informing appropriate stakeholders of authorized changes.

Cost control is not simply a reporting process. It includes the searching out of the “why” for both positive and negative variances between the scheduled and actual costs. It must be thoroughly integrated with the other control processes (scope change control, schedule control, quality control and others). For example, inappropriate responses to cost variances can cause quality or schedule problems or produce an unacceptable level of risk later in the project.

Cost control is a process highly valued by IT project stakeholders. This is also an area where the unpredictability of technology can wreak havoc on the plans laid out within a project. A project manager must be able to monitor the actual budgets of labor and resources against the baselines as laid out in the [Project Budget Estimate](#). This is especially true of new technology areas in which the cost of labor or resources is especially high. Furthermore, the length and complexity of a project will have a direct impact on its potential to go over budget.

Setting budget limits and monitoring variances on budgets must be done early and often. Budget problems tend to compound themselves if left unattended. On an IT project, more money could be spent trying to fix budget, scope or schedule issues near the end of a project than should have been spent on the entire project. In many cases the budget is a fixed amount. In those cases, if other actions fail to bring the project’s costs into budget alignment, the scope must be reduced.

| Action Plan Checklist: | |
|------------------------|---|
| | Monitoring cost performance to detect variances from the Project Plan |
| | Explain both positive and negative variances between the scheduled and actual costs |
| | Ensure that all appropriate changes are recorded accurately in the Project Budget Estimate |
| | Prevent incorrect, inappropriate or unauthorized changes from being included in the Project Budget Estimate |
| | Inform appropriate stakeholders about authorized changes |
| CSF | Project costs are understood and controlled |

10. Manage Issues

The purpose of the issues management process is to provide a mechanism for organizing, maintaining and tracking the resolution of issues that cannot be resolved at the individual level. The approach consists of issue control mechanisms and a well-defined process that enables the project team to identify, address and prioritize problems and issues.

The Issue Management process should give everyone involved with, or affected by, the project a way to report issues or problems. The Issue format provides fields for documenting the problem, assessing the impact of the problem, making recommendations and determining the cost (people and assets) and time required for resolving the problem.

To have the process work requires individuals to submit information on the issues to be considered. Any of the project team members, customers, or stakeholders can submit an issue. This must be done either on paper or in electronic format.

All issues need to be reviewed on a regular basis (e.g., during project status meetings, since these meeting are typically held on a weekly or biweekly basis). It may be beneficial to have electronic copies of all issues and their status/resolution available to all project team members and stakeholders as well.

Typically, when the issue or problem has been resolved and verified, recording the actual date the problem was resolved and the approval authority closes the issue.

Some issues may need executive management approval. The appropriate processes must be followed to update contracts and baseline documents.

| Action Plan Checklist: | |
|------------------------|--|
| | Create a central repository of project issues and use an Issue Template |
| | Project team members, customers or stakeholders can submit issues either on paper or in electronic format |
| | Review issues on a regular basis (e.g., at the project status meetings since this group will typically meet on a weekly or biweekly basis) |
| | Track all issues until they are resolved |
| | Update issue with resolution and status |
| | Depending on the issue, obtain executive management approval |
| | Update the appropriate processes and documents impacted by issue resolution |
| CSF | Issues are identified and resolved |

11. Conduct Status Review Meetings

Description

A standard requirement of all projects is to provide status reports for both executive management and the project team. The frequency of the reports will vary, and may correspond with the executive meetings or may be scheduled at times that the project

manager deems necessary. Executive management reports are typically presented on a monthly basis or upon major project lifecycle phase or milestone completion. Another key in status reporting is to keep the report due date consistent (e.g., every Monday by 1:00 p.m.). This makes it easier for the team members to complete their reporting.

The information shared in the Status Report should be in a consistent format throughout the project. The project team should prepare Status Reports detailing activities, accomplishments, milestones, identified issues and problems. Some level of recovery plans should be prepared for activities that are not on schedule, and mitigation strategies should be prepared for anticipated problems.

Status meetings are conducted to discuss project status and to set direction and priorities for the project. The level of detail and objective of status reports and status meetings vary based upon the audience, project size and impact, and the risk associated with a project. The three primary status audiences are:

Project—The [Project Status Report](#) and Status Meeting includes the lowest level of detail. This is a forum for the Project Manager to discuss project progress and status with the team and to implement project direction and priorities as set by the Executive Sponsor and Steering Committee. Larger projects, which are divided into teams, will also develop team status reports and conduct team status meetings. Project Status Meetings are typically conducted every week.

Executive Sponsor—The Executive Sponsor Status Meeting is a venue for the project manager to discuss key project issues. The Executive Sponsor will assist the project manager in resolving key issues and help set project direction and priorities. The Project Status Report is also provided to the Executive Sponsor. At a minimum, Executive Sponsor meetings should be conducted once a month. Typically, these meetings will occur more frequently for large complex projects with high risks.

Steering Committee—The Steering Committee Status Meeting is intended to be a forum for the committee to evaluate the overall progress of the project. In addition, the Steering Committee sets strategic direction and project priorities. An Executive Status Report, which discusses high-level status, issues and risks, is provided to the Steering Committee and serves as the basis for the meeting discussion. Steering Committee Status Meetings are typically conducted once a month.

Conduct Project Team Status Meetings—Action Plan Checklist

| Action Plan Checklist: | |
|------------------------|--|
| | Individual team members submit a status report to their team leader |
| | Each project team leader produces a weekly status report for his/her team |
| | Each project team leader conducts a weekly status meeting with his/her team |
| | Team status reports should be used as input into a Project Status Report |
| | The project manager conducts weekly status meetings with team leaders |
| | The project manager conducts monthly meetings with all project team members |
| CSF | Project progress and status are documented and communicated to the project team |

Conduct Monthly Executive Sponsor Meetings—Action Plan Checklist

| Action Plan Checklist: | |
|------------------------|--|
| | Conduct biweekly or weekly meetings for high-visibility and high-risk projects |
| | Provide a copy of the weekly Project Status Reports to the sponsor |
| | Identify key issues that impact the organization and require action on the part of the sponsor |
| | Provide status and discuss key issues with executive sponsor |
| | Implement issue resolution plans as discussed with executive sponsor |
| | Revise any related or impacted planning documents |
| CSF | Executive sponsor is informed of project status and key issues |
| CSF | Executive sponsor provides direction and support for resolving key issues |

Conduct Monthly Steering Committee Meetings—Action Plan Checklist

| Action Plan Checklist: | |
|------------------------|---|
| | Identify key issues, which impact the organization and require action on the part of the steering committee |
| | Provide a copy of the Executive Status Report to the steering committee on a monthly basis |
| | Provide status and discuss key issues with steering committee |
| | Implement issue resolution plans as discussed with steering committee |
| | Revise any related or impacted planning documents |
| CSF | Steering Committee is informed of project status and key issues |
| CSF | Steering Committee sets project direction and supports the issue resolution process |
| CSF | Steering Committee sets project priorities |

12. Review Project Life Cycle Phases Checkpoints

Description

Senior management ensures that the project is progressing satisfactorily by reviewing management checkpoints or project milestones. Senior management uses them to approve the completion of a phase or milestone and as go/no-go decision points to proceed with the project. Depending on the size and complexity of the project, the checkpoint review will be linked to project funding. The checkpoints ensure that the products and services delivered meet the project objectives in the time frame established by senior management.

| Action Plan Checklist: | |
|------------------------|---|
| | Review exit criteria and associated deliverables of concluded phase |
| | Review entrance criteria for subsequent phase |
| | Review risk assessments and issue logs |
| | Evaluate project progress and ability to meet objectives |
| | Determine funding status (e.g., approve or shutdown project) |
| CSF | Project checkpoints are evaluated |
| CSF | “Failing” projects are stopped or corrective action is taken |
| CSF | “On track” projects are authorized to continue |

13. Execute the Procurement Plan

Description

As indicated in the Planning Stage of this methodology, there will be times within the Managing Stage when an Agency may have to go outside its resource pool to purchase products or services needed to deliver the project. In these cases, the project [Procurement Plan](#) will be put into action. State agencies will have a defined set of guidelines and policies that provide the infrastructure for project purchasing that should be integrated within the [Procurement Plan](#). These guidelines will outline the policy for solicitation, source selection and contract administration. Although the solicitation and contracting responsibilities may not always be managed by the project manager, it is still important that the project manager have a fundamental understanding of the Agency's contracting and procurement policies.

The project manager's responsibility in the Managing Stage is to provide input into new product requirements for the services or products that were not planned for in the Planning Stage.

| Action Plan Checklist: | |
|------------------------|---|
| | Develop solicitation documents |
| | Conduct proposal evaluation and selection |
| | Conduct contract negotiations |
| CSF | Project services and/or resources have been procured |

14. Administer Contract/Vendor

Description

The project manager will be responsible for ensuring that the vendors, once contracted to do the work, meet the contractual agreements specified within their contracts. Project managers will also be responsible for tracking, reviewing and analyzing the performance of contractors on a project. This performance reporting will be the basis for any contractual changes that need to be made during the life of the contract. Finally, project managers will play an important role in oversight and review of any contract changes that will affect the project.

Contract administration is the process of ensuring that the vendor's performance meets contractual requirements. This is accomplished through the use, and monitoring, of a [Project Plan](#) from the vendor, periodic progress reports and the completion of deliverables as delineated in a project statement of work.

Project managers within information technology projects tend to manage more contracts than non-information-technology projects. This is primarily because of the need to bring in contractors who have expertise in particular technology areas. Therefore, monitoring status and metrics set for the different contractors can become a greater responsibility. The project manager is to ensure that the vendors follow appropriate application development and project management methodologies.

Setting up procedures for contract control and contract change is vital to dealing with unexpected situations during project, development, testing and implementation. Without procedures in place, contract issues could go unresolved or result in project delays. It is important to have on-going, two way communications with the vendors (partnership).

| Action Plan Checklist: | |
|------------------------|--|
| | Ensure that the vendors, once contracted to do the work, meet the contractual agreements specified within their contracts |
| | Project managers will also be responsible for tracking, reviewing and analyzing the performance of contractors on a project (e.g., Deliverable Review) |
| | Approve and monitor the vendor's: Project Plan , periodic progress reports and the completion of deliverables as delineated in a project statement of work |
| | Participate in oversight and review of any contract changes that will affect the project |
| | Ensure vendor adherence to application development and project management methodologies |
| | Ensure that the Agency is fulfilling its contractual obligations |
| CSF | Contractual obligations are met |
| CSF | A sense of partnership is created and maintained |

15. Update Project Planning Documents

Description

During the Managing Stage, the [Project Plan](#) is implemented and modified as necessary. Project Plan modifications may result from such things as the following:

- New estimates of work still to be done (generated as more detailed information is known about outstanding work)
- Changes in scope/functionality of end product(s)
- Resource changes
- Unforeseen circumstances

| Action Plan Checklist: | |
|------------------------|--|
| | Revise Project Plan |
| | Revise Project Schedule |
| | Revise other planning documents impacted by change |
| CSF | Project planning documents are revised to reflect the current status of the project |

16. Establish Final Acceptance Process

Description

The final acceptance process establishes the procedures that will lead to formal 'acceptance' of project deliverable(s). User Acceptance Testing (UAT) is a critical phase of any 'IT systems' project and requires significant participation by the 'End Users'. To be of real use, an Acceptance Test Plan should be developed in order to plan precisely, and

in detail, the means by which 'Acceptance' will be achieved. The final part of the UAT can also include a parallel run to prove the system against the current system.

The User Acceptance Test Plan will vary from system to system but, in general, the testing should be planned in order to provide a realistic and adequate exposure of the system to all reasonably expected events. The testing can be based upon the User Requirements Specification to which the system should conform.

As in any system though, problems will arise and it is important to have determined what will be the expected and required responses from the various parties concerned; including Users; Project Team; Vendors and possibly Consultants / Contractors.

In order to agree what such responses should be, the End Users and the Project Team need to develop and agree a range of 'Severity Levels'. These levels will range from (say) 1 to 6 and will **represent the relative severity, in terms of business / commercial impact, of a problem with the system, found during testing**. Here is an example which has been used successfully; '1' is the most severe; and '6' has the least impact :-

1. **'Show Stopper'** i.e. it is impossible to continue with the testing because of the severity of this error / bug
2. **Critical Problem;** testing can continue but we cannot go into production (live) with this problem
3. **Major Problem;** testing can continue but live this feature will cause severe disruption to business processes in live operation
4. **Medium Problem;** testing can continue and the system is likely to go live with only minimal departure from agreed business processes
5. **Minor Problem ;** both testing and live operations may progress. This problem should be corrected, but little or no changes to business processes are envisaged
6. **'Cosmetic' Problem** e.g. colours; fonts; pitch size However, if such features are key to the business requirements they will warrant a higher severity level.

The users of the system, in consultation with the executive sponsor of the project, must then agree upon **the responsibilities and required actions** for each category of problem. For example, you may demand that **any** problems in severity level 1, receive priority response and that all testing will cease until such level 1 problems are resolved.

Caution. Even where the severity levels and the responses to each have been agreed by all parties; the allocation of a problem into its appropriate severity level can be subjective and open to question. To avoid the risk of lengthy and protracted exchanges over the categorization of problems; we strongly advised that a range of examples are agreed in advance to ensure that there are no fundamental areas of disagreement; **or**, or if there are, these will be known in advance and your organization is forewarned.

Finally, **it is crucial to agree the Criteria for Acceptance**. Because no system is entirely fault free, it must be agreed between End User and vendor/developer, the maximum

number of acceptable 'outstandings' in any particular category. Again, prior consideration of this is advisable.

N.B. In some cases, users may agree to accept ('sign off') the system subject to a range of conditions. These conditions need to be analyzed as they may, perhaps unintentionally, seek additional functionality which could be classified as scope creep. In any event, any and all fixes from the software developers, must be subjected to rigorous System/Product Testing and, where appropriate Regression Testing.

| Action Plan Checklist: | |
|------------------------|---|
| | Establish a Final Acceptance Process |
| | Participate in User Acceptance Testing (UAT) |
| | Ensure that stakeholders responsible for accepting the system have high-level participation during UAT. Stakeholder representatives and end users should have hands-on participation during UAT. |
| | After the system is deployed and fully functional in a production environment for a specified period of time (the specific amount of time should be identified in the Final Acceptance Process), requirements should be validated |

Project Managing Stage Deliverables

Project Status Reports

The Project Status Report and the Executive Status Report Templates are used to communicate the following key information:

- Current activity status (schedule)
- Significant accomplishments for the current reporting period
- Planned activities for the next reporting period
- Financial status
- Present Issues, Concerns/Risks
- Changes to Scope since previous status report

Along with the status report form, the following may be attached:

- Updated Gantt charts
- Recovery plans for activities not on schedule—defined by the project team as being late (e.g., slippage in the critical path activities)
- Corrective action plans for expected problems
- Resolution to assigned action items (including the issues and action process)
- Issues Log
- Others, as appropriate

Updated Planning Documents

Deliverables in this stage include consistent and updated planning documents such as the project schedule, work plan, communication approach, etc. There should be a formal review and approval process for updated planning documents.

Project-Specific Deliverables

These deliverables depend on the nature of the project and the selected systems development life cycle (e.g., waterfall, rapid application development, RUP, etc.). Most of these deliverables should have been identified during the Planning Stage.

- Examples of these project-specific deliverables might include functional design documents, test plans, a training plan, and a requirements traceability matrix.

Project Closeout Stage

The last major stage of a project's life cycle is project closeout. Project closeout is completed once all defined project tasks and milestones have been completed and the customer has accepted the project's deliverables.

Project closeout includes the following key elements:

- Verification of formal acceptance by Stakeholders and Steering Committee
- Redistributing resources—staff, facilities, equipment and automated systems
- Closing out any financial issues such as labor charge codes and contract closure
- Documenting the successes, problems and issues of the project
- Documenting “lessons learned”
- Celebrating project success
- Producing an [Outcomes Assessment Report](#)
- Completing, collecting and archiving project records

These activities are particularly important on large projects with extensive records and resources.

Project Closeout Critical Success Factors

- End- user acceptance
- Business objectives and anticipated benefits are achieved
- Project objectives are achieved
- Knowledge transfer is achieved
- Project materials are archived

Project Closeout Activities

The following is a list of key activities required to close out a project:

1. Conduct Final Acceptance Meeting

Description

The issue of primary importance with project closure is the acceptance of the product or project deliverables by the customer for which they were created. The best way to ensure

this is to convene a final meeting with all necessary stakeholders to review the product delivered against the baseline requirements and specifications. By this time, any deviations from the established baseline will have been documented and approved, but it is still good policy to make the stakeholders aware of the baseline deviations, justifications, and future action plans. Furthermore, any open action items or program level issues can be officially closed or reassigned to the support organization. By drawing all of the stakeholders together in a single meeting, the project manager avoids clearing up open issues on an individual basis. The final deliverable of this meeting should be a statement created by the project manager describing the project's final deliverables in comparison with the authorized project baseline documents. Approval is verified via the signature of a project closure document by all of the stakeholders who signed the original project baseline documentation (i.e., the [Project Plan](#)). This document will be customized to the particular project to include pertinent deliverables, key features and important information about final product delivery. It never hurts to have a celebration!

| Action Plan Checklist: | |
|------------------------|--|
| | Review results with stakeholders and steering committee |
| | Obtain formal acceptance from stakeholders and steering committee |
| CSF | The project is evaluated to determine if business and project objectives and benefits were achieved |
| CSF | New products and project deliverables are formally accepted by the organization |

2. Conduct Final Contract Review

Contract closure is the process of terminating contracts that outside organizations or businesses have with the State Agency as part of the project being performed. These contracts may be vehicles for providing technical support, consulting, or any number of services supplied during the project that the Agency decided not to perform itself. Contracts can be brought to closure for a variety of reasons, including contract completion, early termination or failure to perform. Contract closure is a typical but important part of project management. It is an important process and may require the assistance of the agency's Contracts Administrator. Close attention must be paid to prevent any liability for the Agency.

| Action Plan Checklist: | |
|------------------------|---|
| | Review contract and related documents |
| | Validate that the contractor has met all of its contractual requirements |
| | Document any contractor variances |
| | Resolve contractor variances and issues |
| | Validate that the Agency has met all of its contractual requirements |
| | Document any Agency variances and issues |
| | Resolve Agency variances |
| | Ensure that all vendor responsibilities have been transferred to the Agency or another vendor |
| | Terminate current contract |
| CSF | All contractual obligations have been met or formally waived |

3. Conduct Outcomes Assessment Meeting

Description

In conducting the outcomes assessment meeting, the project manager provides a forum to discuss the various aspects of the project focusing on project successes, problems, issues, “lessons learned”, and future process improvement recommendations. Using the information and documentation from the Final System Acceptance Meeting as a basis for discussion, some typical questions to answer in this meeting include the following:

- To what extent did the delivered product meet the specified requirements and goals of the project?
- Was the customer satisfied with the end product?
- Were cost budgets met?
- Was the schedule met?
- Were risks identified and mitigated?
- Did the project management methodology work?
- What could be done to improve the process?

The Outcomes Assessment Meeting typically includes the following people:

- Project team
- Stakeholder representation—including external project oversight
- Executive management
- Maintenance and operations staff.

The [Outcomes Assessment Report](#) documents the successes and failures of the project. It provides a historical record of the planned and actual budget and schedule. It is important to include in this report, new ideas that were successful in the project and make recommendations on how these processes might be adapted for other projects. Parts of this report may be used to share project successes with other organizations, both within the Agency and with other State agencies. In the same way that problem identification can lead to improvements, successes must be shared so they can be repeated. Where possible, successes should be translated into procedures that can be followed by future projects. Other selected metrics on the project can also be collected, based on documented procedures. The report may also contain recommendations for future projects of similar size and scope.

| Action Plan Checklist: | |
|------------------------|---|
| | Evaluate the project |
| | Document project successes and failures |
| | Determine the extent that business and project objectives, and benefits were achieved |
| | Compile “ lessons learned ” |

| | |
|------------|---|
| | Complete the Outcomes Assessment Report |
| | Revise project management procedures and templates based on “lessons learned” |
| CSF | The Outcomes Assessment Report is candid and balanced |
| CSF | “Lessons learned” are identified and used to improve processes for future projects |

4. Conduct Knowledge Transfer

Description

All documentation that has anything to do with the product itself (including design documents, schematics, technical manuals) that have not already been turned over to the operations and maintenance organizations must be completed and turned over to the project manager.

Following preparation of the [Outcomes Assessment Report](#), the project information is archived. Historical project data is an important source of information to help improve future projects.

The specific information archived for a project will vary between State agencies. Typically, the following project data are archived:

- Project Business Case
- Project Plan, including the Project Charter, Project Scope Statement, Risk Management Plan, etc.
- Financial Records
- Correspondence
- Meeting notes
- Status reports
- Contract file
- Technical documents
- Files, programs, tools, etc., placed under configuration management
- Other documents/information.

All hard-copy records should be stored following standard State of South Carolina record retention guidelines. Many of the technical records and automated versions will be turned over to State personnel responsible for maintenance and operation of the system. Summary technical information should be electronically stored for historical reference to facilitate later review. The project archive includes a description of the files being submitted, the application (including version) used to create the archived materials, and a point of contact if further information is needed.

The summary project management information includes information such as a description of the project, a project organization chart, budgeted and actual cost, and schedule

baseline(s) and actual schedule. Assumptions associated with the project budget amounts and budget changes documented throughout the project are included in the archive.

| Action Plan Checklist: | |
|------------------------|--|
| | Ensure that all documentation that has anything to do with the product itself (including design documents, schematics, technical manuals) has been turned over to the operations and maintenance organizations |
| | Ensure that all project documentation has been updated and is complete |
| | Ensure that all end users have been adequately trained and that the organization is capable of training new end users |
| | Ensure that operations and maintenance organizations have been sufficiently trained to support, administer and maintain the new system |
| | Create an archive for project documentation. Include a project summary document. |
| | Ensure that record retention conforms to standard State of South Carolina and Agency record retention guidelines |
| CSF | Project documentation is complete and has been transferred to the operations and maintenance organizations and/or has been archived |
| CSF | End-users and the operations and maintenance organizations have been adequately trained |

Project Closeout Stage Deliverables

Project Closure Document

The Project Closure document summarizes the Final System Acceptance meeting. This includes, but is not limited to:

- The results of the review of the product delivered against the baseline requirements and specifications
- List of deviations, documented, and approved; with justifications and future action plans
- Action items closed or reassigned to the support organization
- References to other deliverables, key features and pertinent information about final product delivery
- Approval of project closure via signatures of the Executive Sponsor and key stakeholders

Outcomes Assessment Report

The [Outcomes Assessment Report](#) documents the successes and failures of the project. It provides an historical record of the planned and actual budget and schedule. Other selected metrics on the project can also be collected, based on documented procedures. The report also contains recommendations for future projects of similar size and scope. Information within the report should include, but not be limited to, the following:

- Project sign-off
- Staffing and skills
- Project organizational structure
- Schedule management
- Cost management
- Risk management
- Quality management
- Configuration management
- Customer expectations management
- Lessons learned
- Recommendations for process improvement and/or template modifications

-
- Key Project Roles and Responsibilities

A successful project requires the project team to participate (at some level) in the planning process, buy in to the project plan, and be responsible for completion of assignments. It is important to have a defined formal structure for the project and for the project staff. This provides each individual with a clear understanding of the authority given and responsibility necessary for the successful accomplishment of project activities.

Project team members need to be accountable for the effective performance of their assignments. Project organizations come in many forms. On a large project, individual role assignments may require full-time attention to the function. On smaller projects, role assignments may be performed part-time, with staff sharing in the execution of multiple functions.

Executive Sponsor

The project sponsor is usually a member of the Agency's management team, which will ultimately be the recipient of the project's end result. The sponsor is an important stakeholder, usually head of a program area and not normally a day-to-day staff person. This is the person who makes the business argument for the project to exist and usually controls the overall funding of the project.

General Functions

- Articulate program or State Agency requirements.
- Ensure that requirements are met.
- Provide necessary funding and resources as appropriate.
- Champion the project to provide exposure and buy-in from State government and officials.
- Communicate the sponsor's views on project progress and success factors to the project team and other stakeholders.

Project Initiation Stage

- Provide strategic plans and guidance to correctly identify the relevance and value of the project both today and in the future.
- Define sponsor needs.
- Obtain funding for project when necessary.
- Assign sponsorship personnel as points of contact.
- Approve Project Charter

Project Planning Stage

- Assign Project Manager

-
- Attend Kick-off meeting.
 - Participate in planning sessions.
 - Assign personnel through the Project Manager.
 - Approve funding along with Steering Committee.
 - Review and approve [Scope Statement](#) and [Project Plan](#).

Project Managing Stage

- Attend executive requirement reviews.
- Provide written agreement to requirements and qualifying criteria.
- Help resolve requirements problems.
- Help resolve issues, as appropriate
- Attend and participate as needed at Project Status Reviews and Steering Committee meetings.

Project Closeout Stage

- Attend Final System Acceptance meeting
- Provide representatives to attend Outcomes Assessment meeting.
- Attend Outcomes Assessment meeting.
- Sign off on project completion.

Project Manager

The project manager has total responsibility for the overall project and its successful completion. To succeed in this responsibility, the project manager must work closely with the sponsor to ensure that adequate resources are applied. The project manager also has responsibility for planning and ensuring that the project is successfully completed on time, within budget, and at an acceptable level of quality. The project manager must be assigned during the Project Planning Stage so the plan will be owned by the person responsible for its execution.

General Functions

- Implement project policies and procedures.
- Acquire resources required to perform work.
- Maintain staff technical proficiency and productivity, and provide training where required.
- Establish and maintain quality in the project.
- Identify and procure tools to be used on the project.

Project Initiation Stage

- Define project success criteria.
- Document project constraints.
- Document project assumptions.
- Conduct cost-benefit analyses.
- Develop Project Charter

Project Planning Stage

The Project Manager assigned during the Planning Stage may be someone other than the Project Champion/ Leader who carried the project through the Initiation Stage. In these cases the Project Manager must thoroughly review all of the materials previously created or assembled.

- Develop detailed Project Plan with the assistance of the project team, tailoring methodology to reflect project needs.
- Create a Work Breakdown Structure and an Organizational Breakdown Structure with the assistance of the project team.
- Develop, or assist in the development of, a Scope Statement, Project Schedule, Communications Approach, Risk Management Approach (which includes a Contingency Approach), Cost Benefit Analysis, Procurement Plan, Configuration Management Approach, Project Budget Estimate, and a Project Transition Checklist.
- Ensure that management, users, affected State agencies, and contractors agree to project commitments.
- Ensure that the Project Plan is approved and baselined.
- Assign resources to project and assign work packages (Resource Plan).
- Approve Project Quality and Configuration Management Approaches.

Project Managing Stage

- Manage day-to-day tasks and provide direction to team members performing work on the project.
- Regularly review project status, comparing budgeted to actual values.
- Regularly review project networks, comparing baseline schedules to actual work completed.
- Ensure that Project Plan is updated and signed off as needed.
- Make changes to budgets and schedules and make recommendations as needed.
- Review the results of quality assurance reviews.
- Participate in change control board to approve product/project changes.

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- Review project risks and establish mitigation procedures.

Project Closeout Stage

- Develop an action plan for any product deficiencies, open issues, etc.
- Obtain customer and management approval of completed project.
- Close out open action items.
- Conduct Final System Acceptance meeting.
- Create Project Closure document
- Close out any financial accounts or charge codes.
- Conduct Outcomes Assessment meeting
- Create Outcomes Assessment Report
- Assist as needed with any post-project delivery audits.
- Assist purchasing contract administrator(s) in contract closeout.
- Archive all project data.
- Celebrate success with stakeholders and the project team.

Steering Committee

State organization management or the Steering Committee identifies the need for projects, assesses project risk, and approves project commitments. They are responsible for establishing the strategic information technology plans and for ensuring that projects are consistent with state organization and overall state information technology plans. They are also responsible for developing the procedures to ensure that IT policies are followed.

General Functions

- Prioritize IT needs and include in state organization strategic plan.
- Ensure that sufficient resources are available to conduct projects.
- Review/approve commitments to external entities (e.g., vendors, other agencies).
- Ensure that staff is properly trained.

Project Initiation Stage

- Select project manager and assist in staffing effort in cooperation with the Executive Sponsor.
- Review/approve [Project Charter](#)
- Review/validate Risk Analysis.
- Ensure that funding is available.

Project Planning Stage

- Review/approve project plan
- Review/validate and approve risk analysis.
- Budget and establish financial reserves based on Risk Analysis Worksheet.
- Ensure project staff availability.
- Ensure that funding is available.

Project Managing Stage

- Regularly participate in executive management reviews and/or Steering Committee Meetings.
- Approve changes to the project plan.
- Review risk mitigation plans and act on Project Manager's recommendations.
- Review/approve changes in contract commitments.
- Review/approve project deliverables.
- Approve project/phase completion.

Project Closeout Stage

- Ensure customer and sponsor acceptance.
- Participate in Final System Acceptance meeting.
- Sign Project Closure document, if key stakeholder
- Ensure closing of accounting/financial files.
- Participate in Outcomes Assessment meeting

Project Team

The project team has responsibility for conducting project activities. Project team members, as necessary, assist the project manager in planning the development effort and help construct commitments to complete the project within established schedule and budget constraints. The project team may include the subject matter experts responsible for implementing the project solution. Customers and/or stakeholders should interact with the project team to ensure that requirements are properly understood and implemented.

General Functions

- Identify technical solution alternatives.
- Implement solution within budgeted cost and schedule.
- Coordinate with quality assurance organization.

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- Support project planning and tracking.

Project Initiation Stage

- Provide estimates for developing products.
- Ensure that requirements are feasible and appropriate for available resources.
- Analyze requirements for completeness, consistency, and clarity.

Project Planning Stage

- Develop technical approach.
- Partition and assign development tasks.
- Assist in development of estimates and schedules.
- Assist in development of a quality assurance and configuration management plan.
- Identify tools needed for the project.
- Ensure that all members of the project team understand the [Project Plan](#).
- Identify staff training needs.
- Ensure that project execution staff fully understands requirements.

Project Managing Stage

- Create product and process solutions.
- Track the project execution effort and submit status reports.
- Conduct internal and external reviews and walk-throughs.
- Create configuration control and baseline documents.
- Create testing plan and coordinate test activities.
- Execute assigned project tasks.
- Identify problems and schedule fixes.
- Coordinate with quality assurance, review quality assurance results, and correct any deviations.
- Identify and react to risks as they are found.
- Participate in change reviews.

Project Closeout Stage

- Participate in Final System Acceptance meeting, as appropriate.
- Participate in Outcomes Assessment meeting, as appropriate
- Identify ways to improve project processes.
- Turn over all project-related documentation to the project manager for archiving.

Enterprise Project Management Office

The enterprise project management office oversees the project through all phases of the project. Oversight responsibilities include review of key deliverables, attending monthly status review meetings, and consultation throughout the project as needed. Should the project encounter problems, the enterprise project management office should support project recovery efforts.

General Functions

- Review and audit key project deliverables.
- Ensure that project status is regularly communicated and the project remains on track, within acceptable schedule, cost, and quality variances.
- Support the archival of key project information.

Project Initiation Stage

- Review and audit the project charter.

Project Planning Stage

- Review and audit the project plan.
- Assist in assignment of resources if necessary.
- Provide consultative support if necessary.

Project Managing Stage

- Track the project execution effort and review status reports.
- Attend monthly status review meetings.

Project Closeout Stage

- Participate in Final System Acceptance meeting.
- Participate in Outcomes Assessment meeting.
- Review and audit the Project Closure document.
- Review and audit the Outcomes Assessment report.
- Provide archival processes and procedures for retaining the key project documentation.

Online Document and Templates

Click [here](#) for a link to referenced documents and templates which are available online.

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- Gartner Consulting
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- State of California
- State of New York
- State of Virginia
- State of Kansas
- State of Oregon

In the development of this methodology, both the States of Minnesota and South Carolina have based much of the content on the principles and practices espoused by the Project Management Institute (PMI®) as indicative of the best practices of project management. In light of this the following disclaimer is also provided:

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In South Carolina, the following persons served on the Committee that revised and modified the basic Minnesota approach:

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